GEOGRAPHY, RESOURCES & INDUSTRIES

June, 1943

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EDISON ELECTRIC INSTITUTE BULLETIN

JUN 1943

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BLISHED MONTHLY BY EDISON ELECTRIC INSTITUTE

THE ELECTRIC LIGHT AND POWER INDUSTRY

Current Statistical Data Covering 100 Per Cent of Industry

JANUARY, FEBRUARY AND MARCH, 1943

	MARCH (Preliminary)	FEBRUARY	JANUARY
	SOURCE AND DISPOSAL OF ENERGY		
Generation* (Net)			
By Fuel Burning Plants	11,219,300,000	10,219,900,000	11,254,700,000
By Water Power Plants	6,623,100,000	5,890,100,000	6,396,400,000
Total Generation	**17,842,400,000**	**16,110,000,000**	**17,651,100,000**
Add—Net Imports Over International Boundaries	128,300,000	108,900,000	123,800,000
Less—Company Use	241,700,000	239,500,000	247,200,000
Less—Energy Used by Producer	658,300,000	364,200,000	586,200,000
Net Energy for Distribution	**17,070,700,000**	**15,615,200,000**	**16,941,500,000**
Losses and Unaccounted for	2,222,658,000	1,221,475,000	2,060,935,000
Sales to Ultimate Customers	**14,848,042,000**	**14,393,725,000**	**14,880,565,000**
	CLASSIFICATION OF SALES		
Number of Customers			
Residential or Domestic	26,608,681	26,590,271	26,614,550
Rural (Distinct Rural Rates)	1,059,327	1,057,049	1,060,831
Commercial or Industrial			
Small Light and Power	4,171,812	4,179,015	4,199,533
Large Light and Power	144,622	144,222	145,854
Other Customers	120,412	120,198	120,122
Total Ultimate Customers	**32,104,854**	**32,090,755**	**32,140,890**
Kilowatthour Sales			
Residential or Domestic	2,387,367,000	2,518,580,000	2,677,699,000
Rural (Distinct Rural Rates)	171,198,000	175,518,000	174,019,000
Commercial or Industrial			
Small Light and Power	2,334,987,000	2,381,156,000	2,469,920,000
Large Light and Power	8,422,871,000	7,793,007,000	8,020,695,000
Street and Highway Lighting	175,895,000	182,325,000	202,359,000
Other Public Authorities	624,905,000	655,241,000	579,750,000
Railways and Railroads			
Street and Interurban Railways	430,010,000	404,289,000	446,038,000
Electrified Steam Railroads	222,404,000	204,202,000	224,642,000
Interdepartmental	78,405,000	79,407,000	85,443,000
Total to Ultimate Customers	**14,848,042,000**	**14,393,725,000**	**14,880,565,000**
Revenue from Ultimate Customers	**$251,073,900**	**$253,644,500**	**$260,779,600**
	RESIDENTIAL OR DOMESTIC SERVICE		
Average Customer Data—For the 12 Months Ended	**(March 31st)**	**(February 28th)**	**(January 31st)**
Kilowatthours per Customer	1,026	1,022	1,020
Average Annual Bill	$37.65	$37.61	$37.54
Revenue per Kilowatthour	3.67¢	3.68¢	3.68¢

* By courtesy of the Federal Power Commission

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EDISON ELECTRIC INSTITUTE BULLETIN

Volume 11 JUNE, 1943 No. 6

The Permanence of Commercial Work

By C. W. Kellogg

President, Edison Electric Institue, New York, N. Y.

An address before the Tenth Annual Customer Service Meetings, Edison Electric Institute, Chicago, Ill., April 30, 1943

THE industrial aspect of the war (which in some respects appears already to have reached its peak) s now progressed to the point where e can appraise the relative position of r industry with considerable accuracy. ch an appraisal shows on the whole a nfirmation, even under the stress of e greatest of all wars, of the high de- ee of stability that always character- ed our industry in peace times.

At the end of 1942, when war or eparedness therefor had been rapidly ilding up for two and one-half years, e find that currently 60 per cent of r national income is being expended r war—a proportion twice as high as e maximum ratio reached in World ar I. We find practically all metals d many other materials strictly limited use by our government, so that not e pound shall be used for any but war rposes except under the most rigid wing of civilian need. We find 25,- 0,000 of our people, who two and a f years ago were engaged in civilian rsuits, now engaged either in war in- try or in the armed forces of the na- n. In general, we find the most com- te devotion of our economic powers war effort which it has been possible accomplish under the pressure of su- me national need backed by the vir- lly unanimous will of all the people. th this background of a nation at r, what is the relative status of our ustry?

Primarily, of course, electric power is g furnished in unprecedentedly large ntities to keep the war industries go- and it is a source of endless satis- ion to the utility organizations that re has always been ample electric wer for this primary purpose. Even o this first attention to furnishing r power, the figures for 1942 show that, big as the energy requirements of war industry were, they comprised in that year but 56 per cent of the total energy sold, a ratio that was exceeded in two of the years of the decade of the twenties. From the viewpoint of earnings, the 56 per cent of total energy represented but 29 per cent of total gross revenues of the electric utilities, the remaining 71 per cent arising from residential, commercial and other miscellaneous sources. This ratio of 71 per cent in 1942 compares with 69 per cent in 1926. That means that even in the face of the power requirements of this unprecedented war, the electric utility industry this past year derived a larger proportion of its earnings from the home and store in the war year of 1942 than in the peace year of 1926. It would be difficult to imagine a more searching test of stability.

It has been demonstrated in recent months that the total amount of electric energy for industry depends upon the total amount of materials there are to work upon and the number of men who can work upon them, and that these grand totals, even under the greatest pressure, do not vary much from year to year. But with respect to the total use of electricity in the home and store there have been very different forces at work through the years. These forces are those of our commercial departments, developing use in groups of the community which groups themselves have grown much more slowly. I propose to take you back with me to the earlier year (1926) when industrial electric energy bore an even higher relation to the total than it did in 1942.

In that year, which is not very long ago in the history of a great industry—16 years out of 60—average annual consumption in the home was 430 kwhr and in the store 3119. Today, as you know, these figures are: Residential 1022 and Commercial 6350. The increases in consumption per customer from 1926 to 1942 were: Residential 138 per cent. Commercial 104 per cent. There are two outstanding features about this record, in addition to the fact that it is a record of high commercial achievement. These features are: 1st, that the increases in consumption were accompanied by reductions in average rate during the period respectively of 48 per cent and 37 per cent in residence and commercial business—which itself is a commercial job of the highest order; 2nd, that the process was fairly continuous, and 3rd, that the results stuck—there were no permanent relapses from a level once attained to a former lower level of consumption. It should be added, to make the record complete, that during the 16 years prior to 1942, when the population of the country grew by 16 per cent, the combined number of residential and commercial customers grew 61 per cent and stands today at an all-time high of just under 32,000,000.

Nothing could be clearer from the consideration of the record I have so briefly outlined than that it didn't just happen but was the result of persistent and intelligent commercial effort by the utilities themselves throughout the years. The other unavoidable conclusion is as to the relative permanence of the results of our commercial work. This permanence is the foundation for the profound observation made recently by one of our wisest, most experienced and most successful leaders, Mr. Preston S. Arkwright, president of Georgia Power, who characterized our commercial spirit as one "through which we recognize that our customers, when all is said and done, are the only real asset we have."

Our largest expenditures through the years have been for the great power plants and their associated networks of transmission and distribution lines. Yet all of these are but lifeless aggregations of steel, copper and concrete, without the customer giving them life and meaning through the use of their output. We are indeed fortunate that the value of our service has been such as to make the cost of our commercial work as permanent as the very plant that furnishes it. In the last analysis it has been the intensity and success of our commercial effort that has made necessary and possible the large plant development required to care for the customers' needs.

The major part of our operating and maintenance expenses is necessary to keep the wheels turning and deliver the service. These expenses have to be constantly repeated ad infinitum. This feature does not make such expenditures regrettable, for they are the necessary foundation for our service. There is a smaller part of our expenses, however, which created permanent values from which return continues to be received year in and year out. A large part of our commercial expenses are definitely of this latter character. For if a given expenditure results in the creation of a new level of customer consumption and that level can be maintained (as the record shows it has been through the most diverse conditions of peace and war, depression and prosperity) then a new value has been created which, by continuing to produce returns for years to come, becomes a true earnings asset.

It would be most illogical and short-sighted to conclude from the undoubted permanence of the results of our past commercial work that we can rest on our oars and expect the volume of business to continue in the future at the present levels without continuous commercial effort on our part. The whole of our business experience in this and other countries is to the effect that any article or service, no matter how good, must not only be sold in the first place but kept sold later. The process ties in most intimately with the matter of customer relations, for fundamentally the best customer is the friendliest customer, and friendliness from the customer is but the reflection of the friendly treatment he receives from us.

Coming down to more specific cases as to the importance of continuing commercial effort, there are a few matters that in closing I would like to call to your attention. In addition to the basic necessity for wise and energetic sales effort, I believe the post-war period for which we must be now preparing will bring special problems of its own.

The magnitude of the government's war expenditures, in their proportion to total national income, is, as has already been stated, twice as great in the present war as it was in World War I. The effect of this difference is that while in World War I the net balance, even after deducting war expenditures, was a steadily advancing figure throughout the war period, in this war this net balance, representing roughly civilian activity, is a sharply dropping one. The inevitable result of this will be to make the dislocation arising from the present war that much greater than it was a quarter century before; and this in turn will make the reconstruction problems correspo ingly more difficult. It will make t competition for the consumer's do that much keener. In this competi we shall have the double opportunity trying for greater use by our own c tomers in the domestic field and of st ulating commercial enterprises to prove their competitive position with spect to each other by the use of m and better lighting.

Interestingly enough, in the last f years before the war, the develop of increased use per customer in business was making more rapid p ress percentage-wise in the comme field than in the residential field. T trend was slowed down by the di and by the mortality in commercial terprises incident to the progress of

(*Continued on page* 188)

TENTH ANNUAL CUSTOMER SERVICE MEETINGS

The Tenth Annual Commercial Conference at Edgewater Beach Hotel, Chicago, sponsored by EEI marked a decade of organized meetings for discussion of the outstanding questions of concern to the electrical industry. Manufacturers, trade press representatives and others interested with the great body of utility men in solving their wartime service problems—approximately 360 of them—joined in what those attending considered one of the best in the series.

Service to industrial production; service to food production; service to the home; service to Government in mobilization of the public in furtherance of war programs, and plans for the re-vitalization of our business in peacetime were among the discussion themes.

General Sessions were held on April 29th and 30th. On April 28th, in addition to Committee deliberations, there were three round-table conferences. One was sponsored by the Industrial Power and Heating Committee under the Chairmanship of Francis McQuillin with fifty-odd men in attendance for intense discussion of the problems incident to power supply. The food production front was handled in a conference sponsored by our Farm Utilization Committee—C. H. Leatham, Chairman. A feature of this full-day program was an address by Wheeler McMillen, Editor of *Farm Journal* and President of the National Farm Chemurgic Council who addressed a luncheon gathering on the Chemurgic movement and how the utilities could participate in it.

Also the handling of food in the home to prevent waste; nutrition and its relation to the public health; dehydration as a method of food preservation, and a dozen other questions of import in home management in these war emergency times were discussed by the women of our industry. Home Economics authorities in numerous fields were present and participated in this round-table conference sponsored by the Home Service Committee of EEI—Fern Snider, Chairman. With so much ground to cover, discussion was continued for another morning session.

These Annual Conferences are sponsored by our General Commercial Committee. Edwin Vennard, Vice President of Middle West Service Company and Chairman of the Committee was general Presiding Officer of the Conference. Men and women journeyed to Chicago from points ranging from Seattle, Washington, to Miami, Florida. They returned to their jobs with stimulated minds, enriched with information which could be put to work for improving local performance.

In this issue of the BULLETIN appear some of the papers that were presented at the Conference. We regret that the limitations on size of the BULLETIN make it impossible to include all of them in this issue. The balance will be available in mimeographed form to registrants at the meetings.—C. E. GREENWOOD

Postwar Planning and the Electric Industry

By Edwin Vennard

Middle West Service Company, Chicago, Ill.

An address before the Tenth Annual Customer Service Meetings, Edison Electric Institute, Chicago, Ill., April 30, 1943

WHILE our primary objective until the day of victory will be the winning of the war, we should plan ahead for the inevitable and severe changes that are to occur shortly after the war is over. Employment will have to be found for some 10,000,000 men. Industry will have to be converted to peacetime production. The problems to be solved will be different, but in many respects more complex than the change from peace to war production. The men who manage America's vast enterprise system have met the test in the conversion to war production. They should plan now to meet the more difficult task in the conversion to peace.

In making these plans, while striving always to do our best, let us realize the magnitude of the problem and the human limitations in dealing with it. While being bold and dynamic, let us also try to be practical and realistic. Without in any way lessening our determination or lowering our ultimate horizons, let us try to avoid the setting of immediate goals that have little chance of realization—let us not promise more than can reasonably be produced.

Fortunately, there is evidence on every side that plans are now being made by industry in general to meet these new responsibilities. Numerous organizations and groups are actively engaged in the promotion of plans that aim to maintain economic stability and a high level of employment through the democratic principles under which the freedom of the individual is maintained.

The electric industry has played in the past, and is playing now, an important role in the economic welfare of America. Through careful planning in advance and good business management with full co-operation of all employees, the industry has met all war and civilian demands made upon it. As far as can be seen now, there will be no general shortage of electricity in the immediate future.

However, we are not gathered here to engage in unnecessary self-praise. Rather, it is more appropriate that we engage in constructive self-criticism to determine wherein and to what extent our management and operation may have been faulty so that we may continually better our service. But more important, especially because of the economic characteristics of our business, we should plan sufficiently far in advance to meet the changes that we think will occur in the postwar period so that we can contribute our part to the maintenance of employment at adequate income levels under the form of society we are now fighting to preserve.

Before considering the specific plans for the part we will play in the postwar period, we should state at least the general principles of the society under which we expect the plans to operate—the form of society we think Americans want.

First, Americans want freedom—individual freedom—freedom of speech and Worship—freedom to make their own decisions, to build self-reliance—freedom to work in the job of their own choosing, working either for themselves or for whom they please—freedom to progress faster by working harder, doing more—freedom to produce whatever they wish —freedom of the individual to profit in proportion to his personal expenditure of physical or mental energy—freedom to save the difference between what they earn and what they consume so that they may own property and thus become capitalists—freedom to take the risk of investing their capital and to profit in proportion to their judgment—mindful that the burden of mistakes will fall on their shoulders, individually, and will not be borne by someone else.

Second, Americans want freedom to elect government representatives of their own choosing, which representatives will make and enforce laws to give assurance that each individual respects the rights of others—plays the game fairly and pays a penalty for wrongdoing.

Third, Americans want business enterprise to have freedom of operation by men selected by experience and merit—men that are always separate and distinct from those men elected as government representatives to regulate business—freedom of business to start new enterprise that gives labor more jobs at better wages—freedom to employ research and invention to stimulate and supply new wants, to make more and more commodities available to more and more people at lower and lower costs.

This raises the question as to the form of society under which these ideals of freedom can be maintained.

Broadly speaking, there are two fundamental philosophies of government: On the one hand there is the strong central power which makes and enforces laws. The people have little or no voice in the government under which they are ruled. These are sometimes (often mistakenly) referred to as: "Socialism," "Communism," "Fascism," "Naziism," although the same form could be referred to by any number of names. They are "totalitarian" states. The people are subordinate to the state. There is little or no individual freedom.

On the other hand, there is the system under which the people through their chosen representatives make the laws under which they are governed and employ, or elect, others to enforce these laws. The people have full voice in government. This system is called a "Democracy." The state is subordinate to the people. There is individual freedom.

We believe the American form of democracy, while requiring continuous improvement, offers the only opportunity for the kind of freedom the American people want. Therefore, our postwar plans should be based upon the maintenance of that form of society.

Some of the postwar plans of business enterprise have been somewhat qualified. It is claimed that industry can provide the necessary jobs and can maintain and improve the economic standard of living provided that government limits itself to its legitimate functions and does not encroach upon the field of business management.

I do not think that we can solve our problem with this qualification. The fact is that work will have to be found for some 10,000,000 people. If business management either won't or can't, government will. If government does or has to, there is the hazard we will gradually change our democracy to some form of totalitarian state and thereby lose at home the very principle for the preservation of which we engaged in this war.

It seems to me that the responsibility of modern business management is not limited to the conduct of business to the end that a constantly improved product or service may be made available to more and more people at the lowest possible cost commensurate with quality and sound economics, nor to the fair treatment of employees and investors.

We are living in a democracy under which the people have the right to choose the form of society under which they want to live.

However, in our complex society, business enterprise is closely interwoven with the social system. The people are entitled to be adequately informed so that they can make wise decisions. Business management is in somewhat of a preferred position with respect to knowledge of the operation, not only of individual industries, but of the enterprise system as a whole and how that system should be operated so as to result in the greatest good for the greatest number of people.

If, after having the facts, the people decide they want the business enterprise operated in some other manner, then that is the way it will be.

I suggest, therefore, that we not qualify our postwar plans but rather divide them into two parts:

I—Maintaining Economic Stability.
II—Informing the Public.

I—MAINTAINING ECONOMIC STABILITY

The electric utility business is built and operated on the basis of long-term trends. Plans are made two or three years in advance. The effect of any action or economic change may not be apparent until a year or two in the future. It is fitting that we as an industry and as individual companies from time to time should take a long-range view of our operations. Difficult as it may be under present circumstances, it is important that we make such a study at this time. Through this study we can better plan what is necessary in the way of changes in operation and personnel to meet the new conditions. Thus, we can make an appraisal of what our contribution will be to the maintenance of employment and purchasing power after the war. And, we can be ready.

By taking a long-range view of the over-all operations of the electric industry, trends can be determined and from these we can prepare our best estimate of what may reasonably be expected in the postwar years.

This in no way should be interpreted as a prediction as to when the war will be over. It is merely a study of possible future trends based on the best information now available. Neither should this be interpreted as a prediction of trends applicable to any particular company. It is suggested, however, that each company might well prepare such a study now so that plans can be made now to meet these changed conditions as soon as the war is over in order that as little time as possible may be lost in making the change.

For the purpose of this study, it is assumed the war will be over in 1944 or 1945.

Chart 1 shows the total utility plant investment, gross operating revenue, taxes, operating expense, depreciation and return for the electric industry for the years 1927 through 1942 (actual) with projections to 1950.(1)

Here it is assumed that gross operating revenue will continue to increase until the war is over at which time there will be a drop in revenue for one year after which the trend will continue upward. Many factors, of course, will affect the degree of the upward trend,

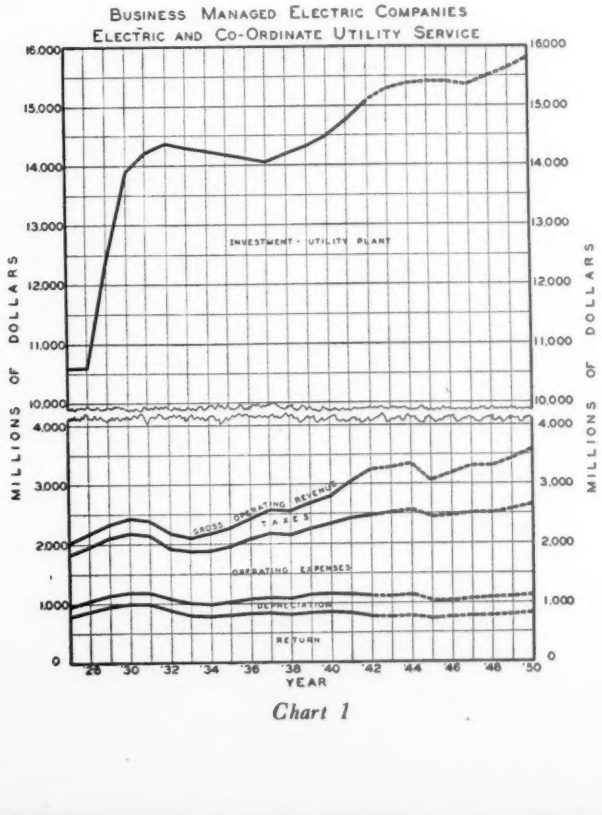

Chart 1

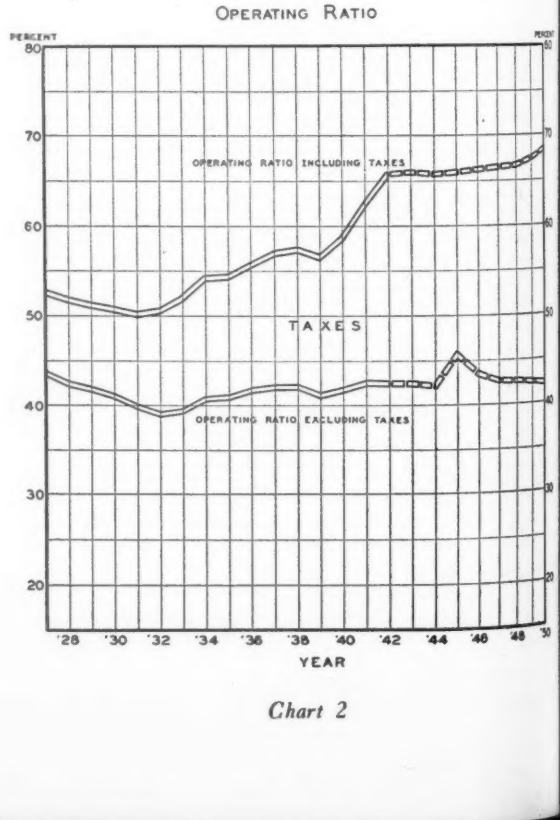

Chart 2

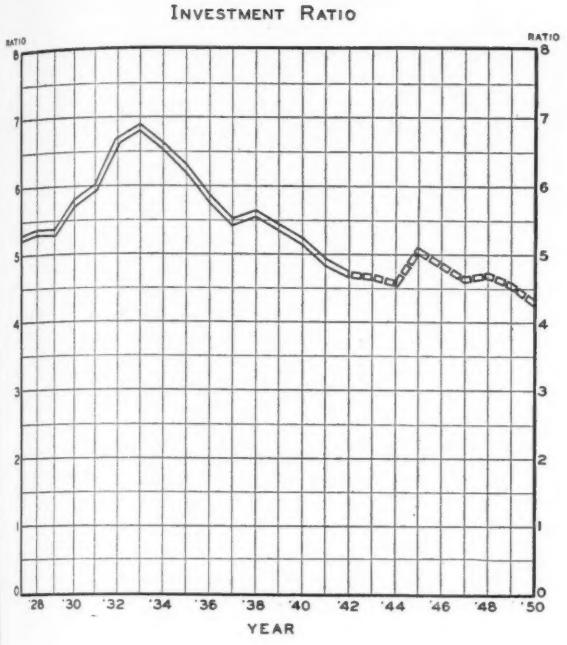

Chart 3

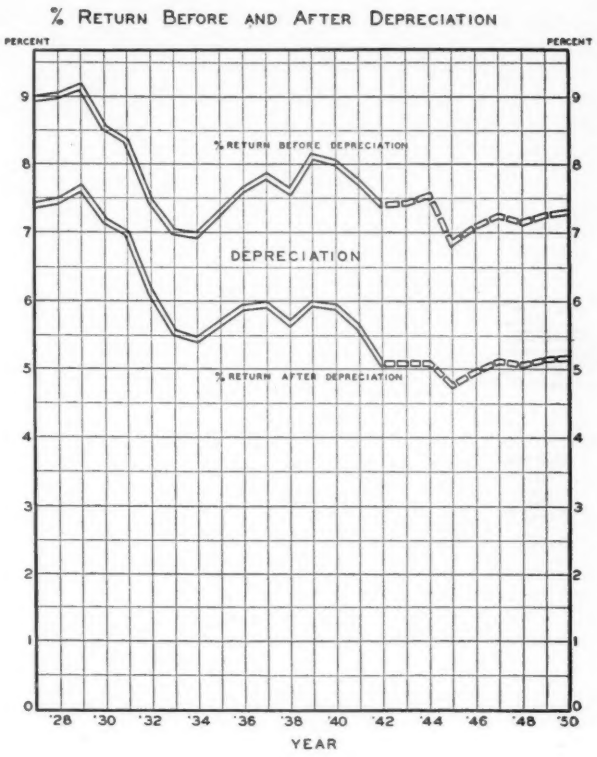

Chart 4

one of which is how well we are prepared to make the change and resume our New Business activities. The investment will probably level off at war's end and remain level until about 1947, at which time it will resume its upward trend. This does not mean that there will be no new capital expenditures during the period for example from 1944 through 1947, but rather that new investments will be offset by retirements.

It is assumed that taxes will continue at a high level in order that the tremendous war obligations may be met.

With the assumption that management will continue the careful watching of controllable operating expenses, it is found that the balance available for return remains fairly level as it has since about 1933. There will probably be a slight falling off for a year or so after the war and a slight increase as load building is resumed in residential and commercial classifications.

Chart 2 shows the operating ratio before taxes and after taxes. This ratio after taxes has remained fairly level throughout the years. The increase in the ratio before taxes further indicates the importance of this element in our operations. Our problem is to find some way to meet it by further economy and increased efficiency and by letting the people know to what extent the electric company has become a tax collecting agency.

Chart 3 shows the investment ratio with a gradual steady decline throughout the years. It is assumed that after 1945, we can continue to bring this ratio down.

Chart 4 shows the per cent return on plant account before depreciation and after depreciation. Both of these have been showing a steady decline beginning in 1940. Probably they will show a sharp decline in the year after the war, but probably can show a slight increase in the years 1945 through 1950.

Increased Employment

This expansion program will create employment directly in the electric utility operations and indirectly in related industries.

Chart 5 shows the gross construction expenditures for the electric utility industry for the years 1921 through 1942 actual and estimated through 1950.[2]

Chart 6 shows the total electric appliance sales for the years 1936 through 1942 actual and the estimated sales for the years 1943 through 1950.

It is estimated that we will have a total of 11,000,000 people in our armed forces and I believe we can assume a large per cent of those are married or will marry at the close of the war, thereby creating a tremendous home building activity and a market for electrical appliances. This will be in addition to the

[1] Business managed electric companies—electric and co-ordinate utility service.
(a) 1943 investment is based on *Electrical World* forecast of $271,000,000 total capital expenditure of which, based on the ratio in 1942, 74% will be net addition to plant account which is $200,000,000.
(b) 1944 and 1945 investment shows an increase equal to *Electrical World* forecast for capital expenditure in 1943 for transmission system only adjusted to 74% for net addition to capital account.
(c) Net addition to plant account for years 1947 through 1950 are the same as actual additions for corresponding years of the decade of the thirties.
(d) Gross operating revenue for 1943 and 1944 follows the trend of revenue increase for 1930 to 1942.
(e) Gross revenue drop in 1945 is the amount of increase in commercial, industrial, railway and electric, for 1942 plus same amount estimated for 1943, plus one-half that amount estimated for 1944.
(f) Added revenue for years 1946 through 1950 are the same as actual increase in corresponding years of the thirties.
(g) Taxes for 1943 through 1950 follow changes in income on basis of 80% of net income before taxes.
(h) Operating expenses, taxes and depreciation for 1943 and 1944 are baased on the trend from 1930 to 1942.

[2] Construction expenditures, of course, will not necessarily follow net plant additions as shown in Chart 1. It can be expected that during the first few years immediately following victory, retirements and replacements will be heavy, which will tend to reduce net plant additions. It can also be expected that replacements and additions will be at lower unit costs than heretofore has been experienced.
Line AA' is the calculated trend (Y = 554.4 — 15.9 X) of construction expenditures from 1921 through 1941. Line BB' is the calculated trend (Y = 347.4 + 60.8 X) of construction expenditures from 1933 through 1940. Line CC' is the calculated trend (Y = 497.4 — 10.9 X) of construction expenditures from 1921 through 1950 with adjustments for probable expenditures from 1943 through 1950. Line DD' is the calculated trend (Y = 448.3 + 106.4 X) for the estimated construction expenditures from 1945 through 1950.

demand for new applances due to obsolescence and failures during the war years. It is estimated that electric refrigerators, washers and sweepers fail at the rate of about 2 per cent per year. This means that some 400,000 to 500,000 refrigerators will fail every year. The longer the war continues the greater the demand for all appliances.[3]

Many improvements in manufacturing of electrical appliances will come out of this war—new designs and new materials will be used. However, we believe all of these changes will aid us in securing the sales volume so necessary to keeping our companies financially sound.

Chart 7 shows the employees of electrical manufacturers, retailers and electric utility companies.

In Charts 5 and 6 we attempted to predict for you the equipment that will manufactured and sold to the utilities and utility customers. Those predictions were made in order to estimate what the utility industry can accomplish in assuming its share of the persons who are now engaged in war work and the armed forces when peacetime production is started. This is an estimate of the number of employees that may be employed by this industry if we plan now and are able to reach the goals set for us.[4]

[3] Total appliance sales for years 1936-1942—*Electrical Merchandising* magazine and Edison Electric Insitute.

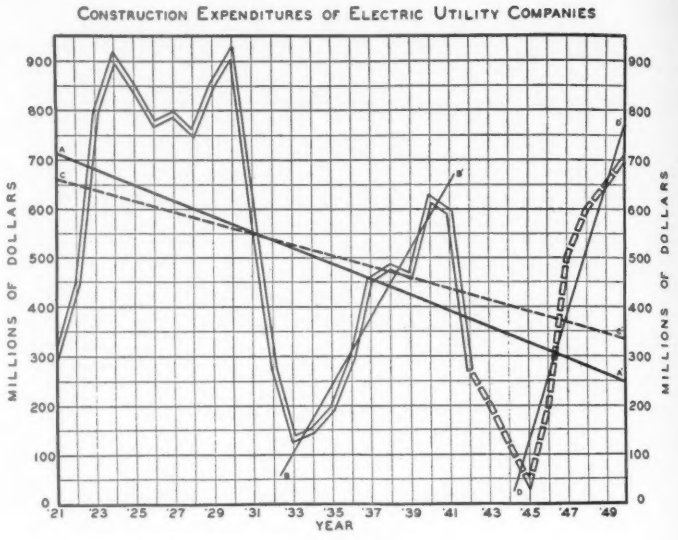
CONSTRUCTION EXPENDITURES OF ELECTRIC UTILITY COMPANIES
MILLIONS OF DOLLARS
YEAR
'21 '23 '25 '27 '29 '31 '33 '35 '37 '39 '41 '43 '45 '47 '49
0 100 200 300 400 500 600 700 800 900

Chart 5

In order that we may carry our share of the maintenance of national economic stability and employment, we must first assure ourselves that our companies are maintaining economic stability. The trends indicate how much more difficult this will be in the future than in the past. Increased taxes are taking an increased portion of the revenue. Investments are rising with little change in balance available for return. More and more the operating expenses are becoming uncontrollable.

However, there are a number of fac-

[4] Basis for estimates March, 1939, *Monthly Labor Review* of Bureau of Labor Statistics.
Survey of Sales personnel conducted by *Electrical Home and Equipment* magazine.
Number of utility employees published in *Electrical World*.

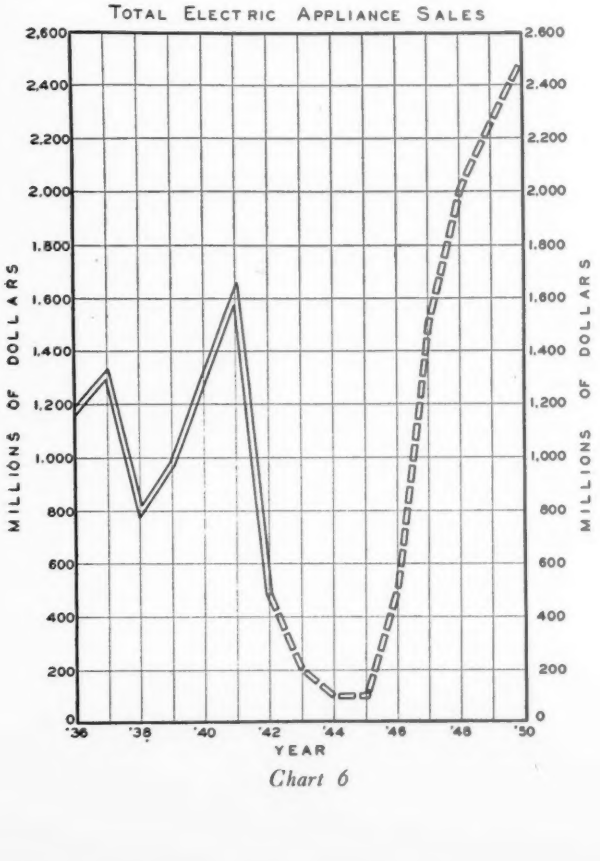

Chart 6

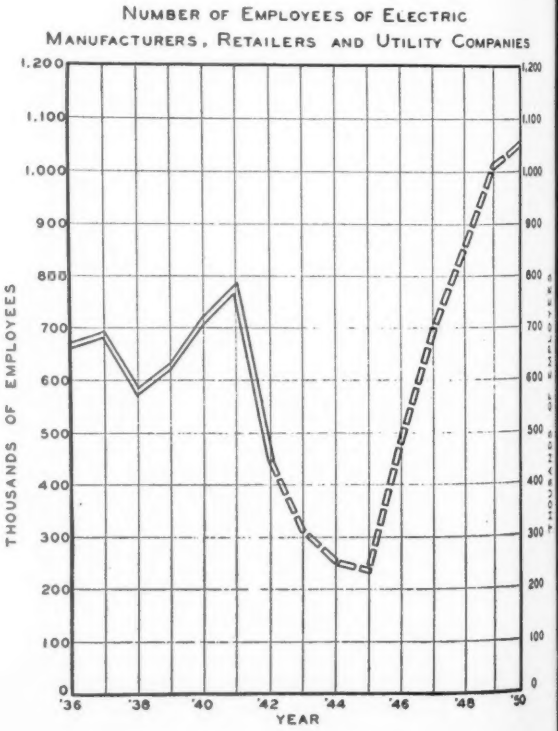
NUMBER OF EMPLOYEES OF ELECTRIC MANUFACTURERS, RETAILERS AND UTILITY COMPANIES
THOUSANDS OF EMPLOYEES
YEAR
'36 '38 '40 '42 '44 '46 '48 '50
0 100 200 300 400 500 600 700 800 900 1.000 1.100 1.200

Chart 7

tors that can be utilized by management in meeting these new conditions. A few will be mentioned for illustration only. Likewise, it would seem advisable for each company in preparing its postwar plan to set down some of the fundamental economic principles of electric utility operation old as they may be to some of us. There will be many new employees in the ranks of electric company operation. They will become more valuable to themselves and their company if they have a full knowledge of the economics of the business. All employees spend company money—if not directly in cash then indirectly in time and equipment. All can save the company money. Employee information programs should be adopted by all companies.

Following are some of the factors that a company may want to consider in its postwar program.

1. The war has taught us many lessons in the utilization of equipment and the staggering of reserves. Power pools may be formed on a larger scale among affiliated companies, thus reducing the required margin of reserves to all companies and thereby further lowering the investment per dollar of gross revenue.

2. There should be full co-operation with electrical manufacturers in the greater standardization of equipment to the end that we may further reduce the investment ratio.

3. There should be an aggressive and complete New Business program with full co-operation between all outlets to the end that there may be greater utilization by existing customers, thus further lowering the investment ratio and thus enabling a continuous lowering of the Unit cost of service.

4. Economy of operation will always be of primary importance in the electric utility business. As far as per cent return on total investment is concerned (which is the over-all index of operating efficiency) $1 saved in expenses is equivalent to approximately $3 or $4 of new business.

5. New Business accounting should be so designed as to enable management at all times to know the ratio of new business expense to the new business revenue produced. Preferably this information should be available by classes of service.

6. New Business activities should be conducted not only on the basis of gross revenue produced nor even on the basis of net revenue produced, but rather on the basis of the over-all results in per cent return on *total investment* (new investment required to serve the particular business plus the allocated portion of existing investment).

7. Each company should consider a complete program of employee information, public relations and public information.

8. Our postwar plan should deal with government powers. Other than in the field of regulation, there are legitimate functions of government which probably will be utilized in the postwar period to help in creating jobs. There are some forms of building and construction which in the public interest can best be carried on by the government. Two of these in particular affect the electric power business. It is well that our postwar plans contemplate them and anticipate the manner in which we should meet them in the public interest. These are: federal multi-purpose projects and rural electrification.

It is the legitimate function of government to build dams for flood control, navigation, irrigation and the prevention of soil erosion. Such dams can generate power with varying degrees of firmness. In most cases, the power is secondary and cannot be relied upon except as it is used in conjunction with steam power.

This hydro power is the property of government. In public interest this government power should be utilized with minimum discrimination among individual customers or classes of customers, without the duplication of existing equipment and without the government competing with its citizens. Likewise, such hydro power should be pooled with existing steam power in order that maximum economy in capacity and generating cost may be realized.

These principles can be fulfilled under the following conditions:

(a) The electric companies under business management should agree to absorb all of the power and energy from the hydro projects, making the purchase at the bus-bar.

(b) The government hydro projects should be completely co-ordinated with the existing systems.

(c) The companies should agree to pass on to all customers equitably any and all savings derived from the absorption of government hydro power.

According to independent surveys of public opinion, there is a general public misconception as to the extent to which these dams can be used for multiple purposes. It is the general belief that practically all water power is cheaper than steam power and that all dams can be used for both effective flood control and dependable power supply with the power as a very cheap by-product. It is necessary that the people be fully informed with respect to the facts, both as to the value of the dams and their limitations.

It is a legitimate function of government to assist in the building of rural electric lines in territories too thin to be served as a business enterprise. In public interest, electric companies should cooperate by selling electric energy to rural electric co-operatives at wholesale rates that are reasonable and competitive with other forms of power. If and when this is done with such rates approved by the government regulatory authorities, economic waste in the building of duplicate transmission lines and power plants should be avoided.

II—INFORMING THE PUBLIC

So much then for the economic operation of the electric business and the manner in which it will contribute to the maintenance of employment and economic stability. Now a word about business management's responsibility in the preservation of that system of society under which this can be accomplished with the continued assurance that the people can maintain their individual freedom.

Why is it now so necessary to keep the public fully informed with respect to the operations of business?

This responsibility probably had its beginning with the corporate form of organization, although management as a whole has been slow in realizing its full significance.

Business mangement became a distinct factor in our economic enterprise with the industrial revolution. Prior to that time management and ownership were more-or-less synonymous. Businesses were truly private. There were the shoemaker, the cabinetmaker and the dressmaker. These artisans individually owned their tools of production and conducted their own businesses. They were their own managers.

However, technological development and the machine age brought about an important change. With the industrial revolution came demands for vast amounts of capital goods. These requirements in most cases were more than any one individual could supply. The corporate form of organization evolved to meet these requirements and consequently the savings of millions of people were directed into business enterprise. Therefore, large industries such as: steel, auto-

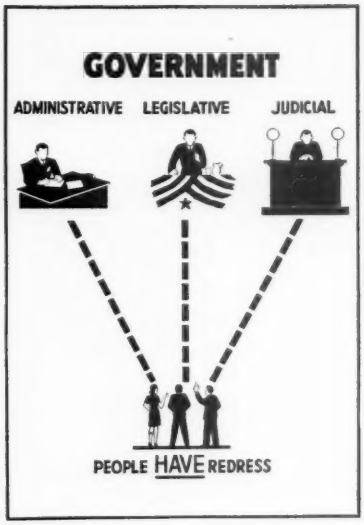

Chart 8

motive, telephone, electrical manufacture and public utilities became largely *publicly owned*. The people either directly as stockholders or indirectly through banks and insurance companies appoint, or elect, business management to operate these enterprises. The managers of these enterprises are the trustees of the people —they are the operators of business, which the people own. Consequently, they have a far greater social responsibility than under the old handicraft system when each manager conducted his own private little business.

Many of these corporate organizations have grown large because this has been necessary and advisable in the utilization of mass production principles, in order that greater volumes of commodities could be made available to more people at lower costs.

This gradual evolution in the operation of business enterprise has made it necessary for government to be especially alert in the enforcement of its regulatory laws in order that fair play and the rights of the people can be maintained.

Thus, we have the modern democratic business enterprise at work—the enterprise system operated by business men and regulated by government representatives.

However, the continued maintenance of that system makes it necessary that all the people be adequately informed of the principle fundamental to its successful operation—the principle of *separation of powers*. The principle on which is founded our American freedom.

In the field of government most people are cognizant of the value of this separation of powers as illustrated in *Chart 8*. With the government divided into three branches—administrative, legislative and judicial—checks and balances are provided and the people maintain their freedom because they have redress from wrong and protection from exploitation by any of the separate branches.

This same separation of powers is equally important in the field of economic enterprise as illustrated in *Chart 9*. Under American democracy, we have one group of men (the business managers) operating the business enterprise and another separate group (government representatives) regulating it. The people maintain their freedom under such a system because they have redress from wrong—and protection from exploitation by either of these groups.

There is one common characteristic of all totalitarian states no matter by what name they are called and that is: The government both operates and regulates business enterprise. When the authority of management of the machinery of production is thus vested in the government, the manager becomes his own regulator—he becomes his own auditor, so to speak—and no opportunity is afforded for considering the interest of the people. Under such a society any complaint against the manager can be registered only with the manager. No impartial consideration is possible. The economic freedom of the people is lost. Once this is lost, the loss of other freedoms is a most natural consequence.

Democracy and freedom can be maintained just so long as the managers of productive enterprise are different people from those elected to regulate business.

Therefore, it is the responsibility and duty of all the managers of the productive enterprise and representatives of government, and the people which each group represents, to guard and guard zealously the principle under which the machinery of production is operated by different individuals than those chosen to regulate business.

As long as government and business are operated by human beings with all their frailties, it is to be expected that a few with selfish or ulterior motives will overstep the mark and encroach upon the rights and prerogatives of others. However, the remedy is not retaliation but rather a program of informing the American people of how these separate functions dovetail with one another.

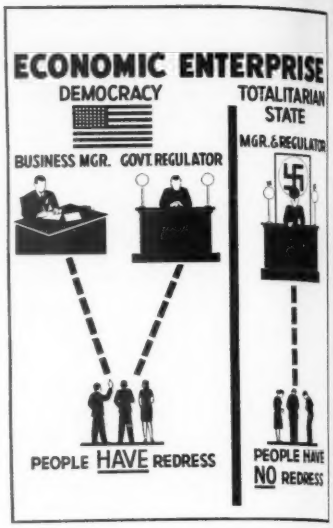

Chart 9

And so, as managers of electric utility enterprise—and this holds for managers of all enterprise—let us not limit our postwar plans to the maintenance of economic stability and employment, great as these problems may be. Let us not qualify our plans nor condition them upon any such factor as the absence of government interference. Rather, let us accept our full responsibility. Let us present the facts—all the facts—to the American people. And let us present them abundantly. The people will then decide, through the regular democratic processes, upon the kind of social system they want and the manner in which business enterprise will be operated.

In short, our job is to sell the American business enterprise system to the American people. That should not be difficult to men who have the imagination, invention, ingenuity and industry to employ the tools of mass production, mass selling and mass advertising in such a way as to put into the hands of the American people more convenient and useful commodities than the people of any other nation on earth. Heretofore that skill of mangement has been devoted to the production of a product and selling it. The product to be sold now—the American system—is somewhat less tangible but none-the-less real. Its list of public benefits exceeds that of any product. Great as it has been in the past—its future is infinitely greater. It has sparkle, glamour, romance, adventure. It is alive. It is vibrant. It is the America we're fighting for.

Can we sell it?

I think we can.

The Job That Has Been Done and Will Be Done

By C. E. Michel
Union Electric Company of Missouri, St. Louis, Mo.

An address before the Tenth Annual Customer Service Meetings, Edison Electric Institute, Chicago, Ill., April 29, 1943

WAR is a time for individuals and organizations to stand up and be counted. The business and industry of America have met this greatest of all challenges. It is fortunate that the particular genius of our country has been in the fields of industrial production and distribution, and mat the abilities learned in peacetime have been readily adaptable to the demands of war. A mechanized war is a war of industrial production of the machines and supplies which our armed forces fight with. American industry has shouldered the tremendous responsibility which war placed upon it. Our own industry—a business which serves all business—has proved itself, and on the whole with less fanfare and more quiet accomplishment than most others.

Yet, we do not consider the job conquered. It will not be conquered until the last enemy has surrendered. And even then, we shall still face the test of our own survival of this most tremendous of all tasks ever undertaken by any nation or group of nations. The final test will come when we have not only gained external victory but have recharted our own course into stable and constructive channels and adjusted ourselves still another time to serve the nation's post-war needs.

What has been done by the electric utilities is briefly this: We brought to the nation's war job the organization and facilities which we had in the service of the American people before this war, and we adjusted our service to the nation's wartime needs. What will be done is a completion of the war job and a readjustment to post-war peace.

PEACE, Pre-war

The policies of our industry in peacetime lent themselves readily to the new conditions imposed by the sudden impact of war.

Two long established major policies served as the foundation of our wartime usefulness. Long-term planning of service facilities was the fundamental one. Aggressive promotion of the use of our service was the second.

These two policies are inter-related and they act reciprocally one upon the other. We planned and built many years ahead because ours has long been a business of rising volume. Generating facilities, taking years to build, must necessarily be planned and under way in advance of actual need. To insure that this building ahead would be economically sound, we promoted aggressively to make the anticipated increase in load materialize.

The result was a beneficent cycle of greater demand, larger facilities, more promotion, greater demand, and around the circle again—a healthy economic process and one continually benefiting the user in the form of greater and more varied services at lower costs.

Being a business on the upgrade during peacetime, we were headed in the right direction when we encountered war. The needs of war, therefore, did not require change in our policy or in our habits and viewpoint. As a consequence, we were immediately capable of taking on considerable new load with our existing spare facilities, which, in times of peace, we regard as almost sacred.

And, as war needs increased still further, we were in a position to draw further upon our planned future growth, to accelerate our expansion by compressing five to ten years of planned growth into two or three.

Thus, the war did not confront us with any radical change in the nature of our operation, but gave new emphasis and acceleration to policies which we had long followed.

WAR

The electric power industry entered the period of hostilities in 1939, with approximately 40 million kilowatts of generating capacity. This was more than three times the capacity available during the first world war.

The composite national load in 1939 was something over 29 million kilowatts. Thus, in reported capacity, we had 11 million kilowatts or 38 per cent in excess of load requirements. This constituted a shock absorber available for immediate service to tide over the period required for installation of additional capacity.

In three years, by the end of 1942, 7 million kilowatts were added to generating capacity. Load increased 8 million kilowatts. This meant that we dug into reserve only to the extent of one million kilowatts. Thus, in the aggregate for the nation as a whole, there is still a considerable margin of reserve capacity to provide for extraordinary demands that may occur before the war is over and to care for ordinary wear and tear in supplying the war loads.

This, of course, is the over-all national picture. There are localities in which the margin is much tighter, largely because of heavy concentrations of war production plants.

"Shortage" Did Not Materialize

There had been expectations in certain quarters of a shortage of electric power for wartime needs. Even before the outbreak of the war, these sources, outside of the industry, predicted demands on the utility industry which indicated the probability of serious power shortages, a conclusion not concurred in by well informed sources within the industry, and time has proven the utility prophets to be more nearly correct.

One element which some prophets had not taken into account was the increased efficiency of utilization which resulted from three-shift operations of war plants, with its attendant high load factors. During the period 1939-1942, national energy generation increased from 130 billion kilowatthours to 188 billion kilowatthours, an increase of 45 per cent. This was nearly twice the percentage increase in the composite demand. The result was that average annual load factor increased from 51 per cent to 58 per cent.

Also overlooked had been the fact that to a substantial extent the new war industries would not be superimposed on existing peacetime industry, but, with the abandonment of "business as usual," would replace civilian production, for the simple reason that there were neither raw materials nor manpower for both. This provided a further cushion for the utilities engaged in the process of adapting themselves to war demands.

But for the principal factor that had not been taken into account, we come

back to the basic electric utility practice of planning the growth of facilities many years in advance, so that when the emergency came it found key utility managements with plans fully blue printed, charted and ready to be put into effect. The location of future power plants was known. The plants in which additional generating capacity would be installed had been selected. Increases in distribution facilities, to match the additional generating capacity, were engineered. These plans were not based on the probability of war, but were part of the normal peacetime administration of our business, fully worked out and subject to flexible scheduling, depending upon whether new demands developed slowly or rapidly. As it turned out, the new load developed suddenly and the planned growth was accelerated accordingly. A monumental task that has been successfully accomplished.

Co-operation of Utilities, Manufacturers and Government

We were fortunate in the abilities and the progressiveness of the manufacturing end of our business and in the high degree of cooperation which immediately prevailed between the manufacturers and the managements of the utilities.

The splendid performance of the manufacturers was, of course, no novelty or surprise to those of us who have worked with them over a period of years. They have worked closely with us in both phases of our job—in the promotion of our business and in the continual improvement and development of facilities for serving the increasing public demand. Their strong and well organized personnel and production facilities swung quickly and smoothly into the new job of wartime production in the same fine spirit of cooperation that we have so long enjoyed.

Equally fortunate was the cooperative spirit between both the manufacturing and the utility sections of the electrical industry and the governmental bodies responsible for coordinating the military and industrial aspects of the prosecution of the war. Having control over new power facilities, through allocations and priorities, and over the placement of new war production plants and orders to existing plants, the War Production Board and allied governmental bodies were in a position to balance the demand for power with facilities for providing the power. This matching of power needs with power facilities was one important reason why the power shortage feared in some quarters did not materialize.

Naturally, these war-born government agencies had to view the nation-wide power supply picture as a whole and work on a national scale. Local inequities arising out of special local conditions were bound to occur in any such broad program and to require individual treatment and relief, as well as interpretation of rulings adapted to each particular situation.

The value of governing regulations and rules in this, as in any broad scale operation, depends on intelligent administration, adaptability and patience on the part of those who administer, as well as those to whom the rules apply; and it is my personal opinion, based on experience, that considering the magnitude of the job and the speed with which it had to be accomplished, both the government bodies and the electrical industry have manifested these qualities to an unusual degree.

Whether this balance of facilities and load can be continued indefinitely is, of course, not certain. Other considerations, such as manpower, transportation, fuel supply, etc., may be controlling factors in the placing of certain war industries, with the result that some war plants may have to go to locations where power facilities are already cramped. We cannot rule out the possibility that such a circumstance might yet require local curtailment, for reasons having nothing to do with the overall power capacity.

The Industrial Customer

Prior to the war, the large light and power load, which is essentially industrial service, consumed approximately 49 per cent of our total sales. For the year ended December, 1942, this load increased to 56 per cent of our total sales.

The conversion of the manufacturing facilities of this country from peace to all-out war production has been materially hastened by the greatly increased installed capacity of mechanical equipment. In 1939 the Census of Manufactures indicated an average of 6.42 hp of installed capacity of machinery per wage earner employed in manufacturing, compared with 3.37 hp during World War No. 1. During the period of the first World War the production per worker actually declined, whereas in the present war, both the production and use of power per factory worker have moved up sharply since 1939.

From December, 1939, to December, 1942, industrial employment increased from 9,600,000 workers to 14,000,000, an increase of 46 per cent. During this same period, electric output consumed by large light and power customers increased from 51,000,000,000 to 88,000,000,000, or 73 per cent. Use of electricity per industrial worker increased from the rate of 5300 kwhr to 6300 kwhr per year during the period. The increase of consumption per worker is a notable measure of increased production efficiency and is reflected in the general improvement of the load factor of utility service. While I recognize that it is not technically correct to relate "Large Light and Power Load" to "Industrial Employment," the error in conclusions drawn therefrom is not material.

The Small Business

Early predictions were to the effect that the small business man would be a casualty of the war. Here a distinction must be made between the small manufacturer and the small commercial establishment, as these have been differently affected.

The small manufacturer has shown a rugged ability to survive and to make a place for himself in the war production picture, tough though his problem has been. Hence the power needs of this type of customer have not fallen off to the extent originally anticipated and current surveys in the territory served by our company show but few "distress plants." This reflects a condition which, if typical of the country as a whole, is a considerable variance with the mortality of small manufacturers still being freely predicted.

The small business man engaged in retail and similar lines has, of course, been pretty much at the mercy of conditions over which he had no control. He makes up the greater number of 100,000 business casualties which the war has caused. Such enterprises as filling stations, automobile agencies and other businesses directly affected by shortages have been greatly reduced in numbers.

The Residential Customer

The impact of total war on our family habits, during this accelerated industrialization of our country has been felt in many ways. Families have been moved from the rural areas to manufacturing centers and from one city to another (and from all cities to Washington, D. C.!). States like Nevada, Michigan, Connecticut and California whose industrial expansion has been out

standing, have had to provide for a large influx of population to man the war industries. Agricultural states like Wisconsin, Minnesota and the Dakotas and many of our southern states have shown a decline in population. This mass migration has had its attending problems, such as housing, feeding, utility service and the like. Service to homes grew sharply in metropolitan areas as population migrated into the new defense areas.

With the curtailment of manufacturing facilities formerly used for production of domestic appliances, the construction in industrial areas of many small homes and cottages, most of them inadequately wired, coupled with the effect of the introduction of "War Time" and blackout restrictions, the increase in average domestic use per customer has in many cases been arrested, although gross domestic sales and revenues have maintained consistent gains with the increased number of households. With the wearing out of household equipment, the necessity for curtailment to meet taxes and higher living costs, it is reasonably expected that residential business will show a tendency to level off for the duration.

New Duties of Promotional Set-up

The promotional organizations of electric utilities faced a quick readjustment of their duties and responsibilities. Superficially we might call this a transformation of a promotional activity into a service and utilization activity. It is more accurate, however, to say that we are still engaged in promotion—the biggest promotion job in our history, just as the prosecution of this war calls for the biggest promotion in the history of the world.

The same talents which built up American industry and the use of its products are today applying themselves to the nation's war needs. The same talents which extended the use of electricity and made us a progressive power-using nation, are now applied to promoting the application of that electrical utilization to war purposes. Only our objective has changed, not the essential character of the activity or the type of talent required to perform it.

Hence, utility sales forces which discontinued their load building activities when war came are now occupied more intensively and more usefully than ever in maintaining even closer contacts than before with each user of electricity in keeping with the increased wartime importance of electric service.

They took on the new task of negotiating contracts for unusually large blocks of power for war operations both with governmental authorities and with private companies engaged in war production. In many cases, this called for the framing of new policies, the development of new contract forms and the devising of terms of financing of extensions, etc.

In making service available to the Government and to war industries it has, of course, been necessary to study carefully and comply fully with all Government regulations as to critical materials, priorities, and shortages not only in materiel but, of equal importance, in manpower.

The industrial divisions of the utility sales departments, hitherto concerned with the promotion of new business, found themselves with the new duties of rendering many additional specialized services to industries participating in war production. These services require a greater amount of individual attention due to the size of loads involved, to the newness of the operations proposed, and to the lesser degree of familiarity with power matters on the part of the expanded staffs of many of our customers. From peacetime experience and from knowledge of the present power problems of hundreds of industries, the industrial sales engineers have been and are in a position to render an indispensable war service.

Whether during peace or war, a major portion of a power salesman's work just commences after a large new contract is signed. This work involves all of the many service contacts, application of equipment, liaison work, discussion of power problems and other matters necessary to enable the customer to make effective use of electric power in his operations.

In addition to this work, the industrial sales departments of the industry have been called upon repeatedly for many activities that normally are more of an operating than of a sales nature. Continuing surveys of all of our customers' requirements are being made in order to keep the utilities constantly informed of the present and future power needs of every industry participating to any substantial degree in the production of war goods. This enables our operating and sales departments, in collaboration, to develop plans concerning the actions to be taken in case of either power shortages or an emergency failure of power supply. Fortunately there has so far, been little need to apply such information, but the industry is now in position, due in substantial degree to the activities of our industrial sales staffs, to face almost any emergency with a minimum disruption of production.

Specialized Industrial and Commercial Services

If we look at the character and extent of their activities today, it will emphasize the fact that the nature of our promotional staffs has not changed. In every field we find that effective utilization of our service calls for the same specialized assistance and counsel as was formerly required in our load-building work—in lighting, heating and general power use in industry and in the residential field as well.

The importance of correct illumination for production has made the illuminating engineer's job more significant than when he was concerned primarily with load-building. The tremendous impetus which has been given to adequate plant lighting in war industries has without doubt resulted, in large measure, from the years of scientific research and organized information these men brought to the job.

The war has greatly accelerated the application of process heating in the electro-chemical, electro-thermal, and electro-metallurgical fields. Here also is proved the value of the educational and promotional work of the utilities in the preceding years, as measured by the ready acceptance of electric heat by industry when the need for such equipment arose. Particularly is this demonstrated by the record of certain of the newer applications, such as high frequency induction heating, infra-red lamp radiation heating, and salt-bath furnaces.

Heavy duty electric cooking, widely promoted by the industry in commercial fields before the war, has now taken its place in the front rank of the production line and here again our men are doing an outstanding and worth while job.

The experienced personnel of the electric utility industry has been made available for another specialized service to the nation through the Utilities Wartime Aid Program, which has to do with the supply and utilization of electric energy in the 650 army posts in the United States. A national organization was perfected to place a utility engineer at the disposal of the chief of the repairs and utilities branch in each of the nine service commands to act as a coordinator between the power supplier and the post

engineer. The coordinator and a representative of the serving utility handled with the post engineer such questions as adequacy of power supply, equipment and manpower required in emergencies for which the supplying utilities' maintenance and construction organization is available for assistance. The Navy Department and Maritime Commission have requested that a similar program be extended to their stations.

When war came, our industrial and commercial men were in a unique position insofar as their relationship with our manufacturing customers was concerned—years of sincere effort to aid these manufacturers in the solution of electrical problems had created a disposition on the part of their executives to listen to the suggestions of these men and to discuss with them many of their problems, other than their use of electricity. In the case of the small manufacturer, almost automatically, it became our responsibility to convey to these customers information on facilities available to them through various governmental agencies, and on methods and experiences of others in converting to war production. Many a small plant is now producing on a full time basis that, without that help, would have become a war casualty, and in this work we have likewise helped the overall war effort.

Serving the Wartime Household

Among residential customers the opportunity to be useful has been especially great and our industry has assumed this responsibility with all the resources at its command. More than ever, the household should be a smoothly running, cheerful and comfortable establishment to ease the pressure of wartime strain and the services which electricity performs gain new importance when health, nutrition, saving of human energy and morale count as heavily as they do today.

Through the medium of house-to-house surveys, we are helping literally hundreds of thousands of our nation's homemakers to satisfactorily solve the perplexing problems with which they are faced and in the process are increasing our knowledge of their needs and desires, out of which will grow a more complete and effective utility home service.

Our help in the care and repair of necessary and irreplacable appliances in itself justifies this effort we are making, but beyond that is our opportunity to serve in the solution of problems arising from war time limitations imposed by food shortages, the rationing system and the imperative need for guidance in the matter of correct nutrition. In my judgment, our Home Service Departments are doing an outstanding job in this respect.

PEACE, Post-war

At this point it would be logical to comment briefly on conditions in which we will find ourselves after the war. I am now serving on two or three Post-War Planning Committees and approached the work with some enthusiasm and confidence; but study of the subject has brought prominently to my mind the fact that some great thinker once said, "Logic is an organized way of going wrong with confidence," and I leave an outline of those conditions to someone with more confidence in his appraisal of the conditions than I have in my own.

This much, however, is certain. Post-war planning is a "must" on the calendar of the future. Each industry must weigh the evidence and determine, insofar as possible, what position it will occupy after the war. To the extent that this appraisal is actual "post-war planning" and not "post-war wishing," and that our plans are sufficiently flexible so that we may accommodate ourselves to the actual conditions as they then exist, will our future be secure and profitable, and I count on the fact that any industry with the pre-war peacetime record, the record of quick adjustment and successful accomplishment in war time that has marked our industry, can be counted on to serve the nation equally well in the post-war peace.

The Industrial Outlook

After the war billions of dollars worth of government-owned plants will have been erected. The retention or disposal by the government of these industrial facilities, and under what terms, will naturally affect our industrial future. Irrespective of what is done, the actual presence of these facilities is likely to result in a considerable disruption of usual competitive relationships.

We will have the facilities for service—more, indeed, than may be comfortable. Restoration of normal reserve and the over-age of certain facilities may modify our over-capacity. On the other hand, a new intensity of competition will have to be met as a result of war-time developments.

The cost of power in industry is less than 1½ per cent of the average wholesale price of manufactured goods in the United States. According to the 1939 Census of Manufactures, wages and salaries are nine times as great as the cost of fuel and power, and a drop of only 4 per cent in the cost of materials would completely offset the cost of all fuel and power.

We can be less concerned with the growth of power equipment competitive with our service when we take into account the large potential industrial markets still open to us. We have not by any means reached the point of saturation in supplying the industrial power needs of the country. In 1939 the total factory horsepower installed in the United States was about 53,000,000 hp, of which some 86 per cent was electrified and the remainder supplied by mechanical drive direct from prime movers. Of the total of 46,000,000 hp of electric motors in the factories in this country in 1939, approximately 30,000,000 hp was driven by purchased energy and 16,000,000 hp by energy generated by industrial plants. Since 1939 it is estimated that nearly 9,000,000 additional horsepower capacity has been installed in United States factories, a very large portion of which is supplied by energy obtained from the utility industry. Nevertheless, it is evident from these figures that the utility industry has an enormous potential reservoir of business available to it, even though industrial production should drop materially when the war is over.

This potential additional business—now supplied by industrial plants—may readily become a cushion to soften the impact on the utility industry of the drastic reduction in wartime power requirements. In order to take advantage of this, it will be necessary that the industry thoroughly re-examine its costs, rates and sales policies, looking toward obtaining a large portion of this existing business which we do not now have.

The Salesman's New Importance

The two choices for meeting a sharp reduction in gross revenue are cutting costs and increasing sales. There are narrow limitations to the first. The second offers the greatest opportunities. This puts it squarely up to the salesman.

The economic role of the salesman has never been fully appreciated, and in many quarters is completely misunderstood. The health of our economic system and of any other economic system depends on the trade by one man of his product or service for the product or service of another. It does not matter

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War Bonds for Economic Stability

By Dr. Robert J. McFall
American Marketing Association, New York, N. Y.

An address before the Tenth Annual Customer Service Meetings, Edison Electric Institute, Chicago, Ill., April 29, 1943

"BUY goods now for postwar delivery and set aside your money meanwhile in war bonds" is the central idea of a number of recent proposals.

These proposals have been appearing from many directions, and they have different variations from the basic theme, but they all propose the purchase of war bonds as a setting-aside of present excess spending money until durable consumer goods can be bought again freely when peace comes.

The most comprehensive, yet, simple of these plans is the one sponsored by the American Marketing Association.

The A.M.A. Bond Plan in Brief

The American Marketing Association has condensed its bond plan into the following concise statement:

To increase bond sales up to the limit of buying capacity for the purpose of avoiding inflation and to lay the groundwork for post-war economic stability, the American Marketing Association proposes the sale of special Victory Merchandise Bonds in conjunction with the advance sale of post-war durable consumer merchandise to be delivered after the war on a priority basis; these sales to be directed and promoted by the sales managements and active sales and service forces of business and to be geographically distributed proportionately to measured buying capacity on a scientific quota system.

The Reasons for These Plans

The two basic reasons for all these bond proposals, A. M. A. and others, are that such a program, properly carried out, will do much to save us from inflation and also to save us from postwar economic instability.

It is beyond question that we have a shortage now of many goods and services which the public would like to buy with its greatly increased income. This is the other side of the fact that millions of people have greatly increased incomes just at this time when goods are scarce. It is generally accepted that this excess of money to spend, plus a shortage of goods to buy, is a great force to produce inflation. Prices certainly are rising in spite of government effort to stop them. The problem is to move this excess spending money from the public before it creates more inflation, and at the same time to keep up the zeal to earn the money to include still harder work in war production. Taxation alone will not do this. The people should get some individual advantage from their hard work.

Then also, many thinkers are worried about postwar business activity and employment. The interests of all—capital, labor, farmer, consumer, and public official—call for stability of business activity at a high level when we swing back to peace. A large body of known postwar demand for goods and services that could be automatically balanced against an undue boom or a business slump would save us many worries now and many hardships later.

The basic idea back of all these bond plans is to meet and solve these two problems. Most of the plans that have been proposed would fall short of meeting these needs fully, and some are bound up with other policies that would discourage the freedom of enterprise essential to postwar stability. In essence, however, all these plans have been drawn to meet those two problems of inflation and postwar economic instability.

One of these plans which has been very widely publicized is the Nugent Plan, which, by reason of certain unfortunate features, has proved to be unpopular in government quarters and utterly unacceptable among private business leaders.

Its severest critics concede that the Nugent Plan has many sound detailed features. As a whole, however, it is an utterly inadequate attack on the problem; at the same time, it has been condemned as being hopelessly complex. It would impose an undue burden on some government agency to manage it, and it would saddle private business with still more fetters of government regulation. All these things are features which any acceptable bond plan must scrupulously avoid.

Essential Principles for Any Sound Bond Scheme

There are certain essential facts and principles which any such bond proposal must meet before it is given serious consideration. Within this framework of surrounding conditions there can be considerable latitude in the details of any proposal. The main consideration after meeting the essential conditions are simplicity and workability.

The Bond Plans Not Economic Cure-All

None of the plans, fortunately, has been set up as an economic panacea that would cure all our present and future woes and create Utopia. They leave open the opportunity—yes, the necessity—for still wider economic planning, many phases of which are highly controversial. Any bond plan proposed to meet these two problems has an essential weakness if it is also proposed as a social corrective. Any such plan should leave to other measures the question of the reform of our economic system. The attack on these two major problems of inflation and postwar instability alone is scope enough for any bond plan. And in its practical application it can merely supplement the workings of the best forces in our otherwise established economic life.

The Magnitude of the Problems to Be Met

The essential weakness of many of the suggested plans is their failure to take into account the enormous magnitude of these problems. The excess public spending power pushing us toward inflation is prodigious, and the postwar economic balance wheel should be very large. As a consequence of this weakness, some of the plans would fail to stop either inflation or postwar chaos. Yet, of course, any plan which makes even a partial positive contribution to their solution will be helpful, if it is put to work pending the adoption of a more adequate plan.

These problems have such enormous statistical proportions that the forces at issue are hard to grasp. But any sound bond scheme must be broad enough in its concept to meet these problems.

The "Inflationary Gap" Is Wider Than It Is Pictured

Some government agencies were talking a few months ago of an "inflationary

gap," or excess public spending power, of only about fifteen to eighteen billions of dollars. Unfortunately, this is only a fraction of the size of this dangerous inflationary force. When the Cooperative Research Committee of the A. M. A. began work on this problem a year ago last February, we realized that this inflationary gap was very large—much larger than admitted by government officials.

A leading Treasury official is quoted as saying a few months since that there will be $15 billion of purchasing power in excess of goods in the year 1943. This small figure is based on a much smaller total national income than other government officials estimate and it also assumes that there will be other "savings" of $25 billion.

The only sizeable non-inflationary opening now left for such "other savings" is war bonds. So, to a very great degree, this $25 billion at least should be added to the admitted $15 billion "inflationary gap." And all this—which is $40 billion—is based upon an estimated national income of only $125 billion.

But other government officials (See L. J. Paradiso of the Commerce Department before the Senate Small Business Committee) estimate the national income, or productivity, at nearly $160 billion for 1943. This estimate is based on projected government expenditure of $83 billion. A recent press report indicates that we have now reached this high level. President Roosevelt raised this figure to $100 billion in a recent message to Congress. So, the inflationary gap actually includes a larger share of the national income than is usually admitted, and the income itself may be many billions larger than the more popular estimates. And the end is not yet!

The conclusion from all this is staggering. We hesitate to add it up to its astronomical summation. The actual size of our national income is too controversial a question.

Yet, we know that national production and national income are really the same thing. In normal times, the public, as people, can consume what the nation produces, unless for the few billions the government takes as taxes and this is handed on to other elements of the public to spend. During war, the people produce heavily, but the government must take the bulk of the product for war. What is taken for war leaves that much of a gap in what the nation can buy as individuals. This gap, the "inflationary gap," is no mere $15 billion. It is many times that.

We should not be misled by the fact that very few in the nation think they have excess income as individuals. The insidiously dangerous thing about inflation is that it tends to eat up excess income and to thrive and grow on it, until its appetite is insatiable.

The excess money in the "inflationary gap" is already causing great price increases. These price increases have absorbed much of the excess income. This absorption causes still more inflation. Left unchecked, free excess income will go on producing more inflation and all the excess cash will be eaten up by the price increases. The result would be that no individual will realize that he, or she, has excess spending power. In the end no one will have enough income to keep up with the inflation.

Rough computations based on the cost of living index make it appear that these inflationary price increases have already absorbed several times as much excess income as have the sales of series E war bonds, which are the bonds bought by the general public.

Large Stored-Up Funds Needed for Postwar Reconstruction

And what of the size of postwar production that must be bought to offset postwar economic chaos? To what astronomical plane of statistics does that lead us? That question is of importance in judging what size of a stored-up fund we should have to start postwar purchasing.

Everyone agrees that all the present workers, plus the returned soldiers and sailors, should have a chance to work when peace comes. Semi-official agencies are now talking of a postwar national production of about $130 billion to keep everyone busily employed. Granting a serious weakness in the thinking that has led to the feeling of certainty of maintaining this high figure, we must concede that a postwar peace production of much more than our old high records is desirable and is necessary for social welfare.

Most of us certainly remember that the full-time employment and high-level national income of 1929 had no permanence that carried over large purchasing power into the following years. Yet that high income of 1929 was based solely on peace-time work, and not, as our present war-income level, based to the extent of about two-thirds on ephemeral wartime occupations. Many of us even remember that the wartime income and high purchasing capacity of the last war had no permanence.

The current popular misconception that, because we have a wartime purchasing power of $130 billion, we can readily carry this purchasing power over into peace-time is based on very shaky foundations.

We will need a large stored-up purchasing power carried over from war years to start us off on a high peace level of production. We particularly will need a very large cushion of stored-up purchasing power because when peace comes there are some profoundly disturbed economic conditions that must be corrected before we can maintain our business economy on a high level.

I wish that the limitations of time here did not make it impossible to explain fully to you certain economic facts which I am rushing back to New York tonight to lay before tomorrow's session of the convention of the American Marketing Association. These economic conditions have been making their deadly weight felt in this country for the last thirteen years, but the wartime release of unlimited spending power has proved their existence with particular clearness. If we examined these conditions carefully, we can see why we have failed to maintain prosperity under either political party, why these conditions never can be corrected on the basis of socialistic theory, and why we can only hope for continued prosperity in the future if we correct these conditions which have been dragging us down economically.

It will take time to correct these conditions, which are tied up with the chronic failure of total purchasing power to rise as rapidly as production capacity for standard goods is increased. Complete corrections of these disturbances are fully possible and must be made. They will be made quickly after we abandon, on one side, complacent ignoring of their existence and, on the other side, reliance on the out-worn philosophies and economic programs of Karl Marx.

The explanation of these last obscure remarks is to be published in the proceedings of our A. M. A. Convention. Meanwhile, may I say that the solution of this depressing situation is wholly possible, and that it can be advanced greatly by the electric power industry to its profit, not only in the general prosperity of the nation, but also in the enhanced sale of its current.

The major thought to be emphasized just here is that we imperatively need a

very large back-log of purchasing power to be carried over from war times into the period of peace-time reconstruction of our unstable economic world.

The size of the postwar purchasing that will be necessary to prevent postwar unemployment and depression may not easily be established at an exact figure. Its general level, however, is on approximately the same dizzy statistical heights as the amount of excess wartime income which should be set aside for postwar buying—provided peace is not too long delayed. The amount of such accumulated "savings" should be approximately what is needed to start us on peace production.

This Postwar Fund Must Be Under Automatic Control

Of course, when peace production arrives, there will be new income coming into our pockets. But a huge amount of accumulated spending power is necessary to boost us over the hurdle of reconstruction. It will help elevate us to a higher permanent postwar level.

This boost, must, however, be under automatic control; it must be held in balance with the production and sales possibilities of that time.

If this huge accumulation of savings is entirely in ordinary war bonds, cashable on demand, we can anticipate the worst economic upheaval in all history. People will be avid for goods and may be expected to rush to the Treasury to cash their bonds, in accordance with the sixty-day provisions of these bonds. If the Treasury can handle the problem of conversion, the public will be loaded with spendable cash at once, before peace-time goods are available in any quantity to buy. The result would be a wild postwar inflation, even though we had escaped inflation during the war. That would make a runaway temporary boom. And such a boom would almost certainly result in an unprecedented depression, with all its unemployment and sufferings. The politicians responsible would almost surely be among the unemployed for all time to come!

On the other hand, if this huge fund is definitely set aside in such a manner that it would automatically stabilize immediate postwar production, we would be off to a good start on a peace-time economy. If a large bulk of the bonds were in a form so tied to the purchase of merchandise that they could be cashed only as the new peace-time goods are actually delivered, we would have no inflation. There would be no excess of free cash at any time over the value of the actual supply of goods. If these bonds were cashed only as the goods are delivered, the cashing of the bonds and the production of the goods would be tightly geared together. There would be no boom from inflation. On the other hand, with a sufficiency of such bonds there would be an adequate active demand for goods to start us on a strong peace-time production program.

If the holders of these bonds have priority rights for the purchase of goods over other potential buyers, then the tendency to cash the ordinary war bonds in a hurry will be snubbed before it starts. There would be no motive to set free a large amount of cash before it could be spent. For that reason, those ordinary war bonds would not cause a postwar inflation. They would be held, as they should be, for long-time savings, and for the payment of taxes.

The new income to be earned in postwar production would carry on the demand for goods after these special bonds are converted into merchandise. Such money would have to take its turn as the bonds are liquidated, of course. But that would be advantageous. It would slow down the otherwise possibly feverish haste to earn money which creates booms and their resulting depressions. It would spread a healthy economic activity far into the future.

What Part of the Inflationary Gap Should Be Absorbed in Taxes?

Theoretically, all the excess income earned during the war might be syphoned off in taxes. Then, we might have no inflation. But we would have other evils.

Our war production would almost certainly slow down from the loss of one of our vital incentives to work. It is our American system of freedom of economic action, of earning and of spending, which puts our production to the forefront among the nations. If all our excess earnings were taken from us by force we would lack that extra incentive which places Americans so far ahead of the semi-slaves which produce Hitler's war goods.

Part of our current earnings must be our own to dispose of as free Americans. Part must be taken in taxes. If it were all taken now during the war, it would certainly slow down our war efforts. The part of the war cost that is not taken in taxes now will be taken later. But both now and later, a goodly part of our earnings must be our own, and at our own disposal.

Then, too, if all our present excess earnings were taken now in taxes, we would have no possible supply of savings ready when peace comes to boost us over that hurdle of reconstruction. We need such a supply of savings and it must be large; it must be within the range of that extra income which the Treasury now hesitates to take from us in taxes. Indeed it even hesitates to tell us how large that extra income actually is.

Just what part of our present excess cash—the "inflationary gap"—should be syphoned off in taxes, and what part in bonds, is a matter for decision that should be based upon the best technical advice.

Congress should, and probably will, take as large a share in taxes as the people will stand for and still maintain their readiness to work to the limit. Any greater taxation than that would be disastrous in present circumstances, whether or not it was under the excuse of not "forgiving" a back year's taxes. Any smaller taxation would be unfortunate; it would invite financial trouble. In other words, the tax rate should be, and doubtless will be, "all the traffic will bear." But that will not be enough diversion of excess income to absorb nearly all the "inflationary gap." A great excess must be allowed for voluntary disposal in bonds for general savings or for postwar buying in order to preserve the incentive to work. What part of this excess should go into *savings* bonds and what into *merchandise* bonds is a matter not for Congress or the Treasury, but for the people to decide themselves—with all possible urging and opportunity to make such setting aside of excess cash adequate to close the "gap."

War Bonds Sold to Banks May Be Inflationary

It must be kept in mind that it is only the Series E bonds sold to the public, and which syphon off excess popular purchasing power, that can safely be counted on to discourage inflation. The total amount of such bonds sold by February last is only $8,267,400,000. During the month of February the reported sales of these bonds were $627 million and the redemptions just 10 per cent as much, $62.7 millions.

The purchase of war bonds by the banks is necessary to finance the war, if we continue to neglect to sell bonds to the public in adequate amount. But the financing of the war through the banks does not offset inflation. If carried far enough it will create inflation; it will

produce inflation of our financial system which is the most dangerous form of inflation—the kind that wrecked Germany in the early 'twenties.

Our elation at the success of the current bond sales campaign should be tempered with this realization. Bonds sold to the banks and large corporations are not anti-inflationary. To stop inflation we must sell bonds to the public and syphon off its excess spending power.

THE BOND PROPOSAL IN GREATER DETAIL

One of the earliest and most comprehensive of the proposals to use war bonds as a basis for the sale of postwar merchandise and stop inflation is that of the American Marketing Association. Its Cooperative Research Committee started work on this early in the year 1942. In May, the resulting plan was presented by mail to the membership of the association. At the June convention at Ann Arbor, Mich., the plan was formally adopted. Shortly thereafter it was laid before the United States Treasury and then also before the Canadian Minister of Finance.

United States Treasury officials express the fear that the plan is not "socially desirable." They suggest that: "Either we will have no price control, and the rise of prices will automatically ration the scarce supply to those who are willing to pay the highest prices; or we will have price control, and the supply will be allocated in some consciously determined way, based on equity and need."

Meanwhile the cost of living has gone up and many billions that might have gone into bonds have been burned up in the smouldering fires of inflation.

Some of the other plans have grown out of this A. M. A. proposal, some have borrowed heavily from it, but still others have sprung up entirely spontaneously.

The essence of the A. M. A. bond proposal originally was the special sale of bonds for the purchase of postwar goods to meet the two great problems outlined above, to do it by enlisting the efforts of the expert marketing forces of the country, and to use the most scientific geographical sales quota system available to assure adequate and equitable sales throughout all parts of the entire nation. Before its formal adoption by the association it embodies a suggestion of Mr. Willard C. Wheeler for a special type of war bond, called the Victory Merchandise Bond, which would carry priority rights for postwar merchandise.

Part of This Proposal Already at Work

The original aspects of this proposal are gradually getting into action. The idea of "buying war bonds now for postwar delivery of merchandise" has been scattered far and wide and is now being put to work in various quarters. The services of marketing experts have not been used so widely as they should in the sale of bonds, but the marketing men are rapidly advancing their efforts here—to the good of all. Bonds are being sold on a sales quota basis. And the particular quota proposed is already in use on a partial basis. That is a quota based on *purchases* of local residents rather than mere sales which do not fit well into the location of the residence of people. It is the M. M. S. County Buying Power Index.

This County Buying Power Index, put out by the Magazine Marketing Service, is in use, partially, as a basis for the selling of war bonds on county quotas. This index, for the first time, gives the public purchasing power by counties. It shows the purchasing of people where they live, as opposed to the retail sales where the shopping centers are. One of the features of this index is that it can be kept up to date monthly, even in these rapidly changing times, so that the merchandise managers may know the current sales potential of each distributing section of the nation. Mr. Wheeler has assisted the Treasury authorities in several of the states to apply such current quota controls to the sale of bonds, and the Washington office has called for the basic data on a national basis. Some of our leading manufacturing corporations also have applied this county quota system to their merchandise sales problems. If any of those present are interested in this, just write me at Magazine Marketing Service.

Victory Merchandise Bonds

In order to meet some of the dangers already outlined, it was obvious that a special type of bond would be necessary. The suggested name for this was the Victory Merchandise Bond. Such bonds should be for the exclusive purpose of buying postwar merchandise. They should be cashable only through the actual purchase of merchandise (except for emergency provisions). They should carry priority rights to the purchase of the merchandise when peace comes.

Through discussion with many marketing, financial and other economic experts, the details of the Victory Merchandise Bond scheme have taken shape. In brief terms the special features provided for in these bonds are as follows:

The Merchandise Minded Public Psychology Is Harnessed

The present Series E war bonds are being sold primarily on the basis of patriotism alone; patriotism plus the pressure of employers to buy. Even the sound investment, or savings, features of these bonds have not been adequately "sold" to the public. Actual surveys show that a heavy proportion of the bond buyers do not think of the money as given to the government as *savings*. They think of it merely as a forced levy or a patriotic contribution to the war effort. As a result, the public is not buying bonds as freely as it should, and many are cashing them soon after purchase. The inflationary gap is not really being closed. Many times as much excess income is going to feed the fires of inflation as is going into the popular type of war bonds.

To a very great extent the public is primarily "merchandise-minded" when it disposes of its money. It is accustomed to buying *things* with its dollars. While it is thoroughly patriotic, it has not been trained to connect its patriotism with its spending. Nor is it greatly given to saving money. The saving motive was never highly developed in ordinary times, and the rapidly rising price level is discouraging that motive thoroughly today.

We are used to putting our money into things; things that we want for our own enjoyment. Provided we can feel assurance that we are to get the right things at the right price, we will be glad to continue putting our money into things.

The concrete psychology is fully utilized by the Victory Merchandise Bond proposal, which adds the strong motive of merchandise-mindedness to that of thrift and patriotism. It augments the patriotic motive, for it aims at a much larger share of the spare cash of the people, and thus applies patriotism to more billions of dollars. It also makes the thrift motive concrete, for it ties the investment in bonds to actual parallel contracts for merchandise, and it utilizes the powerful incentive of being early in line to get postwar merchandise.

Merchandise on a Priority Basis

The outstanding feature of these bonds is that they would be sold for the

primary objective of purchasing postwar merchandise on a "priority basis." By priority basis is meant the good old American business custom of "first come, first served." In normal times we get the goods at the time of purchase or soon afterward, and the first to come is the first to be served. So here, the first to lay the money down would be the first to get the goods.

So the Victory Merchandise Bonds would carry both serial numbers and their issuance date as their priority rating. At the end of the war the public would present to sales department of their chosen manufacturers, the bonds they wish to turn into merchandise. This merchandise may be an automobile, a refrigerator, a fur coat, a new home, or even a college education for junior. At the end of each week the sales office of each producer would stack the bonds presented each week for its merchandise, the earliest priority ratings being at the top of the heap; the latest at the bottom. The sales offices would be supplied from the factory on the same basis. Deliveries would be made each week by starting to fill the orders from the top of the heap of priorities. Deliveries from the factory to the local distributors would be on a comparable basis.

Priority for Any Kind of Merchandise

Any merchandise bond would be available for the purpose of any class or kind of merchandise no matter what merchandise the bond buyer may have expressed preference for, or ordered, when he bought the bond.

That is the plan of the A. M. A., which differs from the idea of some of our friends that the priority should be good only within the limits of one industry, e. g., the refrigerator industry, and that, if the customer changed his mind and wanted a radio, he would lose his original priority and have to take a much lower one for radios.

In this way neither the U. S. Treasury, nor any other Government Bureau would keep special records connected with any merchandise. Uncle Sam would not go into the mechandising business. There would be no additional load on any Government agency for the keeping of records or the control of merchandise sales.

When the producing company delivers the merchandise for the bond, it will attach to the bond a copy of the sales slip signed by the customer and certifying that the merchandise has been delivered. Then it can demand the cash for the bond at the U. S. Treasury.

There is nothing new in this advance purchase for future delivery. New automobile models have been widely sold that way. The "lay-away," or "will call" merchandise plans have been based on this principle. So have the Christmas Clubs. The American public has faith in the American commercial system, that it will deliver the goods—goods that are satisfactory.

And this proposal will leave the American commercial system free to operate on a fully competitive basis. The "open priority" feature of the bond assures that. At the end of the war, the bond holder can buy the goods he wants to buy. His original preference may be modified by later evidence on the quality and price of rival products. Keen sales managers say that is what they themselves want; if they know who wants their products now, there would be "something the matter with their organization" if they fail later to convince these potential customers that their merchandise can fully meet quality and price in open competition. And they know that the competitive system is best for all of us.

Such open competition assures the bond buyer of the best product at the best price that the American competitive system can offer. And the American system has always made good on this basis. The public has learned to have great confidence in it.

The additional quantity of bond savings induced by this type of a bond scheme will also give assurance of fair prices for goods when peace comes. If an adequate quantity of bond sales is secured, inflation will be checked and prices kept to reasonable levels. On the other hand, an adequate quantity of bonds will assure a large demand that will prevent cut-throat prices which would injure all producers and public alike.

A Real Offset to the Dangers of Inflation

The assurance of reasonable postwar prices for the merchandise and the guarantee against inflation, to a large extent, are one and the same thing.

We must ward off inflation now or meet serious military consequences, even though this requires a large amount of effort in making bond sales. We must no longer temporize with the inflationary gap. We must close it by really syphoning off all that is possible of the excess earning power. We must syphon it off not only through taxes, but also through the sale of ordinary war bonds, with these latter really popularized as true savings for all emergencies and for old age. We must also assure the additional sale of just as many bonds as people can be sold for postwar merchandise, made popular by the best salesmanship and pushed by complete social pressure. It means that not only autmobiles, radios and refrigerators should be included. Everything possible that is scarce now and can be sold on a priority basis later should be covered; homes, and air-conditioning equipment, education, travel, and all manner of durable goods.

The more goods and bonds sold, the less opportunity of inflation. And the less inflation, the more reasonable the postwar prices will be.

With Victory Merchandise Bonds sold in quantity on a priority basis the dangers of a postwar inflation are minimized. These bonds are not to be turned into cash directly by the public. They are to be surrendered for merchandise to the producer, who in turn cashes them only when accompanied by a certificate of goods actually delivered. The cashing of bonds must be tightly geared to the actual making and selling of merchandise. There would be no excess cash clamoring for scarce merchandise. Even the other cash in people's pockets would have to stand aside and not bid up prices for durable consumer merchandise.

Socially Fair

This merchandise-bond plan would be fair to all classes within the nation. It would not correct present social inequalities. That is a job for other planning. Nor would it do away with war's hardship on the fixed income groups. But it would not harm any substandard classes. In fact, it would do them a very great amount of good, because it would retard the price increases of inflation. The low income, and fixed income groups are the worst sufferers from inflation. Any plan that will stop inflation will help these and everyone in the nation.

This merchandise bond plan, however, would be peculiarly useful for the great masses of the nation now engaged in war work. It is not the wealthy, but the great working class which now has the excess spendable income and stands in the "inflationary gap." It is those, the rank and file of the nation, who would be the greatest gainers.

The rank of the soldiers and sailors are the real low income group today. The Victory Merchandise Bond Plan

cannot change the age-old custom of low pay to the fighting forces. But it goes far toward offsetting it. These soldiers and sailors are not of, or from, any separate class in the nation. They belong to the families who are staying home and working and which should be buying the bonds. These families are now saving to reestablish the boys in civil life. Under the Victory Merchandise Bond plan they would work the harder at it.

Of course, there will be some unattached ex-soldiers when peace comes. And there will be some doctors without priority bonds with which to buy a needed new car. But these are very small exceptions. Even if uncorrected, these unfortunate ones would be vastly better off if we put such a merchandise bond plan into operation. It has been suggested that Congress should provide the returned soldiers and sailors with an allowance to establish them in our economic life again, and provide them with priorities for purchases. This is extraneous to the Victory Merchandise plan, but not inconsistent with it. At the highest calculation, only about one-twelfth of the population will be under arms. Most of these will be members of families holding portfolios of war bonds. A parallel priority for unattached returned men should, accordingly, take but a small proportion of merchandise priorities. If such exceptions are to be established they should also include automobiles for doctors. Fairness to all would seem to demand that such exceptions and their limitations be established by Congress in the early future.

This bond proposal would be entirely fair to small business. It may even lean over a little backwards in being fair to the little fellow. The open priority feature guarantees fairness. The small concerns certainly could not put more than their share of effort into such bond sales. When the war is over the bonds will be good for the product sales of little and big alike; and the little fellow may be in the vanguard in converting to peacetime production; he may not be delayed by government ownership of his plants. New industries also should spring up with new products to sell, and these will be encouraged by this bond system.

Meanwhile, there will be no unfairness to the larger concerns. There would almost certainly be a very large sale of these bonds by financial houses and others who will not push the advance sale of any specific line of goods. These bonds would be completely open for the products of all producers.

Suggested Specifications of Victory Merchandise Bonds

Illustrative of the specific type of security contemplated are these suggestions:

Victory Merchandise Bonds should be a special Treasury series, of 10 years maturity, sold at par and accrued interest, and carrying the same, or a slightly lower, rate of interest as the series E bonds. They should be convertible to cash at their due date, or earlier when peace comes, when accompanied by a certificate of goods or services delivered to the bond owner. For distress cases the banks might loan up to 80 per cent of face value on these bonds before peace comes and cash them through the Federal Reserve System if the loans are not repaid. Registration of these bonds should be compulsory so that they shall never be open to sale in the open market and thus subject to speculation.

Method of Sale

By their very nature, it is obvious that these Victory Merchandise Bonds should be sold by the sales forces of all the makers of durable consumer goods. Most such concerns would enthusiastically welcome such a program. Those which are indifferent would be virtually forced into the program by the competitive situation.

Thus the sales forces of all the large consumer goods manufacturers would be drafted for the sale of war bonds. They would sell the bonds and make parallel sales of their own merchandise for postwar delivery. The bonds would not be transferable, but the orders for merchandise might be. The sales forces would be paid for this work by their employers; not the full commission, for they would not perform all the whole job of completing final sales of the goods.

Doubtless, many concerns and many industries would be glad to give the sales forces larger considerations. Some industries also might give discounts to the consumers. Discounts might be given by certain industries in lieu of the advantage of an advance list of buyers. These and as many other such detailed features as possible for each industry should be left to be worked out by our competitive system. The general rule should be kept to utter simplicity.

Banks and other financial concerns should also help the public buy these bonds. They should be allowed to hold the bonds at interest during sale and sell to the public on an instalment basis.

Merchants also would sell these bonds, either for immediate cash, or on the instalment basis as they sell "lay away" purchases. In this way they would take care of those wants of their customers which they can later supply.

The present type of war savings stamps could be used for these bonds also.

There would, of course, need to be national, state and county sales organizations as well as industry organizations to make this plan a complete success.

The adequate sale of war bonds is the biggest sales job ever confronting us. The best sales skill of the nation will be needed to organize. But we would be selling postwar merchandise and postwar prosperity, as well as war bonds.

Other Bonds as a Compromise Measure

A group of men in, or near, New York has recently been studying these various bond proposals. Their conclusion seems to be that the A. M. A. proposal is best as an ideal, but that other plans should be pushed now if they can be put to work faster.

It was the early idea of the A. M. A. committee to sow the general plan far and wide and encourage it to grow-up semi-spontaneously in many places and in various forms.

Almost immediately after the circulation of the A. M. A. plan to our membership, one alert magazine publishing house began to encourage advertising the purchase of bonds for postwar merchandise. They presented their modification of the idea in an article in *Printer's Ink*.

The Electric Bond and Share Company and the General Electric Company had been thinking of some such plan. They requested a number of copies of the A. M. A. plan for circulation in the electric industry.

The gas appliance industry has spent the better part of this past year promoting a comparable plan for the postwar sale of gas appliances based on war bonds.

The Electric League of Cleveland and various other concerns of national, regional or local scopes, notably the Hartford Electric Light Company, are promoting plans in this field.

One very important plan is being pushed so quietly that we are not privileged as yet to mention the name of the promoters. It envisons a priority confined to each industry, and the use of the present series E bond, possibly with a single assignment clause to confine its use to merchandise sales.

All of these plans are based upon the

use of the present series E bonds. They will help the sale of war bonds to the general public, and hence offset wartime inflation. They all tie the sale of bonds to the sale of merchandise, in this they increase the sale of bonds and the syphoning off of excess purchasing power, and the building up of postwar purchasing power.

If the lawyers could work out an assignment clause for the Series E bonds that would prevent their being turned into cash and competing in the open market for scarce merchandise when peace comes, then we might use the present bonds and also escape a postwar inflation. But this seems impossible.

The reason for pushing the use of the present type of bonds now instead of special merchandise bonds, is the unwillingness of the Treasury as yet to concede the advisability of such special bonds. The Treasury officials foresee perfectly clearly that the widespread use of the Victory Merchandise Bond would be a very great handicap to government regimentation of business in the postwar world. If the public holds priority rights associated with a Treasury Bond, it would be exceedingly difficult to assign the delivery of postwar merchandise on the basis of government rationing coupons, or other socially corrective regimentation.

If, however, a large volume of postwar merchandise orders are based on the present series E bonds, it will soon become obvious to all that a postwar explosive inflationary force is right among us. Something will have to be done to offset such a great danger. Public opinion will force that on the government.

It is advisable, therefore, that all these sound plans, involving the immediate use of even the dangerous series E bonds be pushed to the limit. Such a program will offset many of the dangers.

When the public, and the government awaken to the additional danger of postwar inflation from these E bonds, it should not be impossible to arrange for conversion of those sold up to that time through all these plans into a safer type of special merchandise bond, allowing priority based on the original purchase date. In that way we may move ahead on a compromise basis, for the present, and insist on the added safety feature of special merchandise bonds, against postwar inflation, when this danger is more thoroughly appreciated.

One of the bond plans which could most readily be so converted is that of the Hartford Electric Light Company. It is a local plan, but it embodies many admirable features that could most readily be swung into a nationally comprehensive, and safe, merchandise bond plan.

If we can all keep our attention on the ultimate possibility of a universal merchandise bond plan in which all other plans can ultimately work together for a common end against inflation and for postwar economic stability, we can do much to save the country from disaster; we can do much to restore it in postwar days to prosperity and the economic security of unfettered enterprise.

Of course, it would be an enormous sales job to carry out this program of selling bonds for postwar merchandise on even a unified basis as proposed by the American Marketing Association. It may be a still greater task to do it on a scattered basis, as necessitated by Treasury rulings. But American industry is not afraid of big jobs, in which each man pulls his own oar.

Nowhere in the world has sales strategy been raised to so high a level as in the United States. American business has won this high position by virtue of two major factors. (1) Quality of sales planning, and (2) quality of sales personnel. These factors should be relied upon more fully to sell bonds, but the sale of bonds must be tied to the sale of merchandise.

So much is at stake that the magnificent sales skill of the nation would gladly accept the challenge and do a real job. If this job is done right, we should have no inflation either during or after the war, and, with such a back-log of orders, industry should be able quickly to reestablish itself on a peace-time basis with a higher and more stable level than we have known.

The Job That Has Been Done and Will Be Done

(*Continued from page* 168)

how greatly science or industrial skill might advance, if its products fail to find their way into the hands of a user. It does not matter how hard any man may work at his particular job if he cannot trade that work in for something he and his family need. The salesman brings that trade about. People cannot go about to one another trading their products or services for the service or product of another. They must all throw theirs into the general pool of distribution, and take out their needs. That is the economic significance of selling, and selling is therefore the pump which keeps human needs coursing through the channels of distribution.

There is no doubt that there will be tremendous technical wonders after the war. The pressure of military necessity always accelerates manufacturing technique. But these will remain blueprints unless they do two things for our people: Unless people have the ability to buy them and unless they give employment—two ways of saying the same thing. The salesman will persuade people to buy them. That will employ people to produce. That will qualify more people to buy—and that process over and over again spells prosperity. Whatever name you give any economic system, its final objective is the exchange among ourselves of goods and services. That exchange must be kept fluid and in constant operation.

So in our business specifically. Because of the war we will have large new capacities for producing electricity. This power has to be moved to people who can use it. Who will move it? The salesmen. How will people be able to buy this power and the equipment to use it? Because other salesmen are moving their products to markets and thus creating purchasing power.

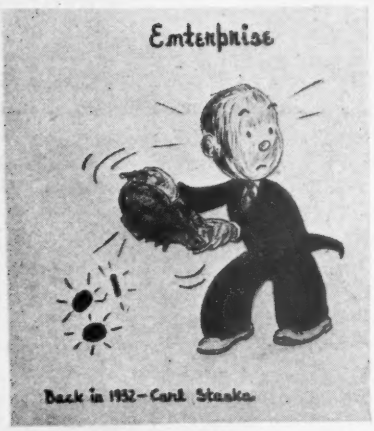
In every branch of our business we are learning more about our customers during this period, because the needs of the time have required us to establish closer contacts with them to insure that they are making constructive and economical use of our service. We will enter the post-war promotional period, therefore, better informed than ever on the potentialities of our service and on our customers' needs and viewpoints. In every classification—industrial, commercial, residential and rural—our promotional activities will have a sounder factual basis than ever before and will be subject to more intelligent administration. In the difficulties of today we are gaining the strength to meet the challenge of tomorrow.

The Progressive Certainty of the Future

By F. McQuillin

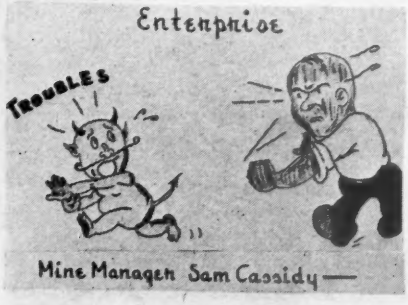
West Penn Power Co., Pittsburgh, Pa.

An address before the General Commercial Conference, EEI, Chicago, April 29-30, 1943



borrowed money to buy a lathe and a drill press. These enabled him to do catch-as-catch-can work in the cramped cellar of his home. His two daughters were his helpers. By 1935, Staska's skill and precision had put him into new quarters; by War's start, he employed 50 men. Today, Staska's company is head of a War pool of many concerns, making dies for fabricating .50 calibre links. In terms of dollars, the enterprise has assets of about one-half million. WAR PRODUCTION NEWS for January, 1943, says Staska's Company's "worth to the war effort is far greater than ($500,000) because of the speed-up its contributions (new ideas) have made in . . . increasing production . . ." Carl Staska is an *Entrepreneur*—this is individual enterprise. Carl Staska is a *producer* Entrepreneur.

About six weeks ago, on one of those brizzardy days,



invited us to spend the day at his mine in the heart of western Pennsylvania's coking coal fields. We knew in advance that the day's headlines were "labor troubles in the coal fields"—that shortages of strategic materials made it difficult for them to get machinery to cut, load and hoist coal. We went prepared to hear and see all the alibis on waning coal production. After being frisked for cigarettes and matches, we traveled into the mine with the shift—a two mile trip underground in a safety car that rode as smoothly as our most modern street car. We moved from working place to working place, in one section of the mine, and we came off the shift with the men late in the afternoon, just as tired, as hungry and as dirty as they were.

When they cut and loaded the coal, two streams of water settled the dust. When a piece of equipment broke down and they couldn't get new parts, it was built up again in a well-lighted underground shop. Transportation, repairs, safety, mining and engineering were all on a streamlined, underground basis, with the plant actually moving 13 acres a month. There were cartoons on production and safety posted throughout the mine—drawn by the miners themselves and printed by the company. Men that went into the armed services were being rapidly replaced by newly trained miners, and they were working on a three shift, six day basis, and maintenance was done on the seventh day, and *new, all-time records of coal production were being made and then beaten again.*

Sam Cassidy is an *Entrepreneur.* He has installed the spirit of individual initiative into his men. They are *production* Entrepreneurs.

And for the civilian home front, too! Arch Wood, with a glass company, gave us a skillet a few days ago made of tempered glass to replace critical metal. Now you can still have your ham and eggs for breakfast while your aluminum goes to planes. Put a flame on one side

and a cube of ice on the other, if you will, or even drop it—but not too hard—and your glass skillet will still be there for another meal.

Arch Wood is an *Entrepreneur*—a *creator.* He is leading you and me to venture into the use of a new product.

James Jameison is a young coal miner. He has a lovely wife, a chubby baby daughter, a four room house (not too new) and a steady job at good pay. He is saving money—buying bonds—he is helping break production records at his mine. Some day he will be foreman.

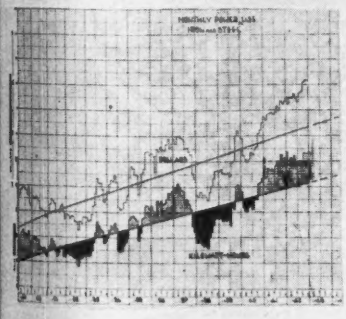
James Jameison's foreman, through his foreman's boss, through his Mine Manager, through his Company, has shown him the *progressive certainty of the future*. James Jameison will have a son, too, and a bigger, newer house with more conveniences as long as he *feels* that way. James Jameison is an *Entrepreneur*—the *consumer* Entrepreneur.

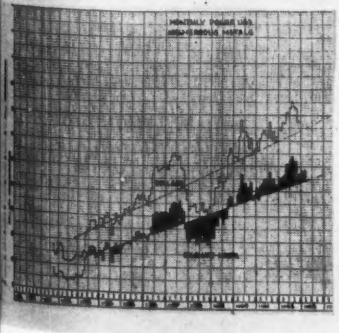
Sweat and loyalty and the fighting spirit of men made possible these fine stories—hard work and better methods—perspiration and inspiration. These are the basis of the terms "Entrepreneur", "Individual Initiative", "Venture" and "Enterprise." There is no substitute for these if we want PROGRESSIVE CERTAINTY OF THE FUTURE.

Now everyone is interested in "Where do we go from here?" You, as Engineers, Economists and Business Men, like to look at fundamental records. It happens that industries we serve in western Pennsylvania are at least three of these fundamental industries. In 1942 our industrial revenue came from these sources:

Iron and Steel Industry	32%
Coal and Coke Industry	34%
Glass Industry	9%
Non-ferrous Metals Industry	6%
	81%
All Other Industries	19%
Total Industrial Revenue	100%

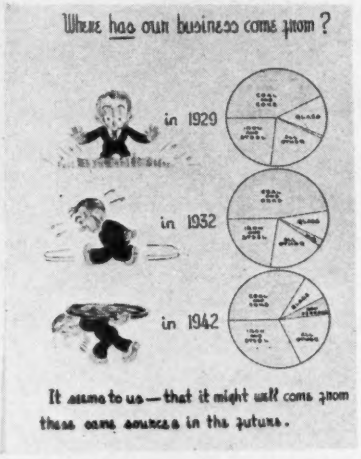
Here is the record of two of them:—





The charts are for the iron and steel industry and the non-ferrous metals industry. The one for the iron and steel industry starts in 1929 and shows power use in those lush days and the drop to the depression bottom of 1932; after that, the climb to the high of the inventory boom of 1937; and then its drop before the climb to the present war boom top. Notwithstanding the ups and downs, the record says that in the past this business has been a steadily growing one. The long-term normal is steadily up. The non-ferrous metals business is also using continuously more and more electric service. Our coal industry and our glass business give similar long-term upward trends in power use.

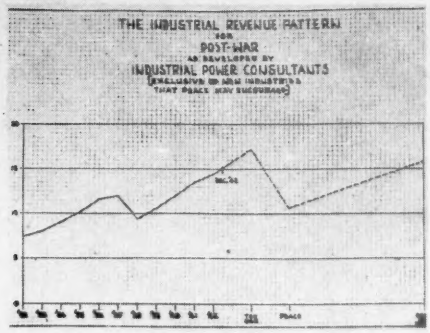
You will notice that each of these fundamental industries again indicates the PROGRESSIVE CERTAINTY OF THE FUTURE. Wherever you work and produce, these fundamental statistics will be an important part of your comparative progress. Because of the talk of the Plastic Age, Aluminum Age, Diesel Age, Substitute Age, the New Deal and the New World Order, we thought we better look at the records as to where our business used to come from. Perhaps there has been revolution we don't know about. And this is what we found.


Where has our business come from?
in 1929
in 1932
in 1942
It seems to us—that it might well come from these same sources in the future.

In lush 1929, the depression 1932, and war boom 1942, 80% of our industrial business always came from these four basic industries. So far, we have looked at what we had and at what we now have; so perhaps we had better look at our industries one by one and examine their future.

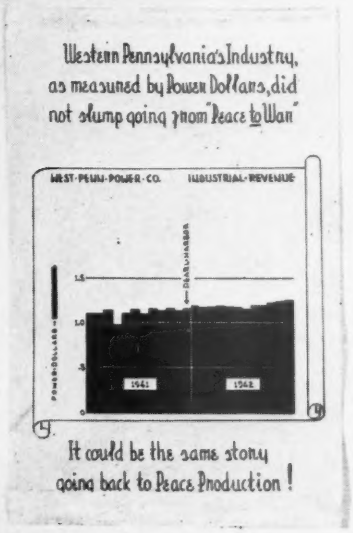
The Industrial Power Engineers carefully examined their most important accounts and looked at what these industries are making in today's war time; looked at what they will make in peace time; and what their markets will be. They looked at the number of employees and the quality of the management. They looked to see what production, product and market research these industries were doing. They looked to see what recent plant improvements had been made—how much money the owners of these industries had put into their business. From these facts, they estimated the long-term outlook and evaluated the power dollars that we might expect when peace comes and when peace markets are again in boom. When we added up these things

the products, new methods, new markets, research, improvements, new money, and subtracted the losses, and without consideration of what new industries we might get, we got this result.



The chart shows industrial revenue from 1932 to 1942 and indicates our estimate of our top war revenue, our peace revenue and our possible peace boom revenue, without regard to time. The primary reason for the drop was the feared inability of industry to quickly convert back to consumer goods production—to get from *war* boom to *peace* boom. So, logically, a good question was: "How fast did we convert from *peace* to *war?*" The General Motors story has been widely advertised. It said that when General Motors began to convert to war production in 1941, employees were going into war production fast enough to off-set the drop in the number on peace-time production, so that the number of employees and the payrolls did not decrease during the period of conversion. Actually, they held steady, and then toward the end of 1942, increased. Mr. Sloan's last report to stockholders says there is no reason to prevent its being the same story going back to consumer goods production.

Western Pennsylvania industries, as measured by power dollars, did not slump going from peace to war.



It could be the same story going back to peace production. Of course, when peace comes, there is bound to be a slump:—

if everybody feels like this. This fellow

says. "There has always been a post-war slump before." But when peace comes, if we work like these folks:—

then we are bound to have PROGRESSIVE CERTAINTY OF THE FUTURE.

You and I will make the PROGRESSIVE CERTAINTY OF THE FUTURE.

Two weeks ago, I was honored to be invited to attend a round table conference on the subject "The Engineers and the Future." There were twenty present—prominent western Pennsylvania Engineers and executives. Everyone participated in the discussion, and here are just a few of the projects and plans all set when victory comes.

The named market for new power uses among West Penn served customers totals 200,000 kva. This is the Victory Plan of our Industrial Power Men. That part of the program that calls for more babies I leave for some one else, but you can see that all of us can contribute and—

Power Markets Through New Applications

By J. F. Gaskill

Philadelphia Electric Company, Philadelphia, Penna.

An address before the Tenth Annual Customer Service Meetings, Edison Electric Institute, Chicago, Ill., April 29, 1943

NEW applications are the things which prevent the electric industry from facing saturated arkets in any of its lines of endeavor, nd, so far at least in our past experience uring normal times, they have always ppeared often enough to widen our orizons more rapidly than we could exaust the possibilities of the new applitions already at hand. I think that is in itself is an inspiring and stimulatg thought which is largely responsible r the optimism and enthusiasm with hich we regard the future of our industry. No one can become backward defensive in their thinking if they well on the fact that there is almost no mit to the future.

I would like to define new applicaons as those already well-known and completely applied, those known but in eir infancy, and those which are just ppearing over the horizon as future ssibilities. Each of these things deands the same approach insofar as sellg is concerned. The additional effort tailed in absorbing entirely new applitions expresses itself in pre-marketing udy and analysis rather than in a difrence in sales technique.

An example of an old application hich is ever new through development light. Light is the original reason for e establishment of the utility industry d yet, the application has been develped to a point undreamed of in its origal conception and there seems to be no d to its possibilities. Such an applicaon, old though it may be, requires conant study and analysis if we are to ep our marketing in line with the rogress of the art. Power applications e also in this category. An example of application which has had considerble development, but which holds even reater promise for the future is industial heating. Here the known possibilies, sufficiently engineered for marketg, are small indeed compared to those nerally unknown or partially develped. At the present time there is loomg over the horizon something comparatively new to industrial work which promises to broaden our markets. I refer to electronics which, although well-known in communications and to a limited extent in control, holds even greater possibilities in these and other fields.

Since the last war great strides have been made in the refinement and scientific exactness of industrial processes. This development has been greatly stimulated by war. The nature of production, which calls for an almost infinite repetition at uniform quality, demands a flexibility and exactness of control which is the peculiar characteristic of electricity.

Stimulated by this fortunate coincidence, which found the tool immediately available to the need, we have seen a host of applications designed to make scientific knowledge effective in production and to reduce the chance of human error by automatic control.

With the increase of knowledge in metallurgy, we have had melting furnaces for better castings and alloy steels, and controlled heat treating in different atmospheres and baths. Finally, just before the war, the low temperature heating field, formerly largely closed to us, was opened with the advent of infrared heating by means of which the drying time of designed for the purpose paints has been cut from hours to minutes. It is also applicable to other drying operations. I do not think the ultimate size of the field of this application can be estimated. It also offers an interesting feature in that the cooperation of the paint and ink manufacturers was enlisted in designing paints and inks suitable for drying with infra-red.

In lighting, also, new sources such as the high wattage Mercury Tube, the Fluorescent Tube and, recently, the cold cathode Fluorescent Tube have opened up the thinking as to practical lighting levels in industry and elsewhere. The old time industrial goal of around 10 foot-candles has jumped to a generally accepted level of 50 foot-candles and studies now in progress indicate that 100 foot-candles will be the standard of the not too far distant future. Here, also, the paint manufacturers are cooperating in the combined selling of paint and light.

Electronics promises a degree of control that will, almost certainly, result in more applications of electricity. Some modern types of production welding would be impossible without electronics. With the electronic microscope, science will be able to probe further into the habits of molecules and atoms which means a further increase in the possibilities for new applications. Electronics has also entered the high frequency heating field where it holds great promise for direct load building. Tubes designed to handle 50 kw have been built with indications that a capacity of 1,000 kw is not impossible. In short, electricity has brought about the marriage of science and production and the possibilities stagger the imagination.

All of these things and many others in their various stages of development and market acceptance, are the life-blood of the electrical industry. They are the things which make us grow and keep us constantly on our toes in attempting to keep abreast of the things we are to do the next year and the year after. I would like to point out here that, in an industry so prolific in the development of old and well-known applications and in the creation of new, an unusual degree of flexibility is required both in sales organization and methods.

Because of this the numerous examples which could be given of specific applications and their amazing variety and results would be interesting but not constructive. New applications, already numerous, appear to be on the increase. Our problem is not the search for new developments to sell. It is rather the search for ways and means to speed up the introduction of applications to the market so as to obtain a more rapid acceptance and use by our customers. If we do not discover the answers to this we may easily find ourselves caught between a wealth of development on the

one hand and a sluggish market on the other.

Time will not permit a discussion of all of the factors which bear on markets for new applications. Therefore, this paper has been confined to a very few items whose selection, it is hoped, will be, at least, thought provoking.

Having defined and illustrated a conception of the title as given, I am going to suggest that the market possibilities of new applications are to a very great degree dependent upon the way in which we and other outlets approach the market, the degree of confused thinking in the market caused by lack of knowledge and misinformation, and the coordination of advertising and promotion between ourselves and other outlets.

I believe you will agree that by and large people are sold on electricity. It seems to me that they are very apt to be unfamiliar with its limitations at any one time. In fact, their imagination being captured by this mysterious force, they are rather prone to disregard the immediate limitations. Therefore, they are fair game for the man who is attempting to discredit legitimate outlets and to dispose of gadgets through misrepresentation or those who are sincerely but mistakenly engaged in selling crackpot ideas. You know them—the man who can give more general illumination with a special reflector; the man who can get more than 3,412 Btu's out of a kilowatthour for heating; the man who claims he can save a large percentage of your power bill by this or that legerdemain. And these are not all. There are plenty of others who, for financial or other reasons, are preying on the inadequate knowledge of our customers.

Our salesmen are constantly contending with the results of the efforts of these people in their daily work and for every one that disappears, another takes his place. The result is that the small and medium size industrial and commercial customer in particular is apt to become confused, suspicious and slow to accept change. I do not feel that this condition is nearly as prevalent among our large industrial customers whose engineering staffs know the sources of accurate technical data and are accustomed to consulting with our Industrial Salesmen.

On the other hand, we ourselves have sometimes added to this confusion and suspicion through our natural desire to see the electrical industry grow by leaps and bounds. This difficulty might be called the impatient promotion of poorly developed good ideas. I think you will know what I mean when I refer to the electric truck and several other items which you can doubtless recall.

The market situation generated by these factors delays, tremendously, the acceptance of new developments or applications, and we must reduce this sales resistance if we hope to obtain the maximum reward in rapidly expanding markets through new applications. Manufacturers are also interested in this problem. Their salesmen are also contending with the type of selling to which I have referred as well as premature promotion and it seems to me that they have a very real incentive to overcome it in that their products might, thereby, receive more rapid market acceptance at lower distribution costs.

Perhaps this problem exists because we do not fully realize and accept—

First—That utility selling is just as much an engineering job as any other part of our business up to the point where we attempt to persuade the customer that he should accept our findings.

Second—That the salesman on the firing line, when attempting to dispose of his product on a factual basis from the viewpoint of the customer's needs, has not reecived the type of continuous support and guidance needed from authoritative sources in his battle with the inadequate knowledge of customers and the unethical salesman who lives by misrepresentation.

Third—That the manufacturers and utilities have not co-ordinated their efforts closely enough so as to enable them to escape, entirely, the effects of disconnected selling and promotion.

A consideration of these factors suggests several interesting points which might be worthy of some thought. For instance, the engineering or factual approach to the marketing of new applications is really imperative insofar as the utility is concerned. The sale of our product, kilowatthours, is entirely dependent upon the continued use of the equipment purchased by the customer. If that equipment performs according to the prediction of the salesman, then the customer will continue to utilize it as an essential part of his business. If, on the other hand, the equipment is unsatisfactory the customer will discontinue its use, thereby discontinuing the flow of kilowatthours.

Therefore, a sale by a utility salesman is never completed with the sale of the idea, but only becomes successful when the customer is confirmed in the continuous use of the equipment through satisfaction in that use. It would be bad enough if waste of selling time and loss of business were the only results of failure to meet this basic requirement, but there is another and equally serious effect in the building up of sales resistance through loss of confidence which makes it extremely difficult to introduce new applications in the market.

Literally we cannot afford to sell new applications until we know to the limit of engineering ability how they will perform and stand up in the particular use for which we intend to persuade the customer to purchase them. If we can assume this to be true, I would like to point out that it might be considered good human nature if the same man were not required to do both the engineering and selling on the job. This observation brings up the question of organizations designed to handle the engineering approach and, as that question does not seem appropriate for discussion here, I will leave it with the suggestion that it is worthy of attention.

If we admit the need for an engineering approach in the sale of electrical applications, we must also admit, I think, the fact that the multiplicity, complications and down-right mystery of some of the things which can be done with electricity make the sale of new applications particularly susceptible to the undesirable type of selling by misrepresentation to which I have referred before. It seems to me, therefore, that the sales-engineer who is combating the confusion and misinformation encountered on the selling front is entitled to look for more support from authoritative sources such as our great national technical societies who have done such a remarkable job in upholding the technical integrity of engineering as we generally understand it.

In other words this means that, over the years, application engineering has grown in importance as compared to design and construction engineering until it is, today, a vital and largely uncoordinated part of our selling operations. We still have the package that can be taken at the end of the production cycle and sold with confidence, but the number of applications that can properly be sold only after an engineering analysis of the proposed use is growing greater year by year, particularly in our industrial work.

It seems to me that engineering of this

type is a very real contribution for which it is not inappropriate to suggest recognition and aid from the most reliable and authoritative sources even though some of the assistance might require an approach to generally non-technical audiences.

In the early days of industrial work, the engineering complications involved in selling to the ultimate user were relatively few in number. Isolated plant studies were difficult, but motor applications were, largely, a mechanical problem and the utility engineering department could be called in to help with the receiving equipment. As the years passed, however, the picture has changed and it has become increasingly apparent to those of us who are in touch with markets, that, if there were some way in which understandable explanations of technical advances and developments could be more generally publicized by groups such as our national technical societies, the sales-engineer would be helped in obtaining acceptance of the engineering facts so necessary in satisfying the requirements of the engineering cycles in the selling of new applications.

That this is not an over-optimistic hope is indicated by the fact that there is now proposed a film to be released on a national scale which will deal with the fundamentals and proven facts in lighting. It is intended, as I understand it, that these facts will be presented with proper emphasis on their significance with respect to human problems and as such will claim the attention of human beings without regard to their technical knowledge of the subject. If, as I hope, the film comes to a successful completion it will furnish a background of support from an authoritative source which will represent a long step toward the discovery of a way to eliminate some of the delays in the distribution of new lighting applications occassioned by the difficulties in marketing to which I have referred.

The acceptance of the fact that engineering is a large part of our selling effort and that there is a need for support from authoritative sources in overcoming lack of knowledge and misrepresentation are, in themselves, not enough if we are to develop markets for new applications. The manufacturer engaged in research work and the utility engaged in selling the idea of utilizing the products of that research should, I believe you will agree, each know more about what the other is doing. Some of the manufacturer's research work is to supply a market need. Some of it is done in order to discover facts which have no immediate market need, but which will themselves create a market either through substitution or addition.

Knowledge of the work of the manufacturer along both these lines would be extremely valuable to the utility. The utility, in turn, having a more intimate knowledge of its own market, is in a position to carry back to the manufacturer difficulties indicating necessary changes in design of the applications already in service and market needs for new electrical applications which would be helpful to the manufacturer in guiding the direction of his research and design.

It is quite possible that this program could be handled better as a national operation than by disconnected local efforts. Perhaps, on the other hand, a modest local effort might determine its appropriateness as a national endeavor and, with this thought in mind, we have been attempting to explore the possibilities of such a plan in Philadelphia. There is by no means a workable set-up as yet although we have been pleasantly surprised at the reception of the idea among those manufacturers with whom we have discussed the thought. I mention this effort merely to show that the thought of closer cooperation with the research departments of manufacturers and the sales-engineering departments of utilities holds some possibilities because there seems to be some recognition of the value of such a movement among those people immediately concerned.

Now we can turn to the local sales operation in the immediate market with which each of us may be concerned. Here the problem revolves around the utility sales-engineer and the manufacturer and his outlets. It is among these that we will find the salesmen who are engaged in combating the sales resistance set up in the minds of the ultimate consumer by all of the factors removable and unremovable with which you are all familiar.

It appears to me that, irrespective of the manner in which it is done, those sales outlets who are engaged in introducing new applications or in marketing the older applications still under development, and who recognize that the market for electrical equipment grows more rapidly under customer satisfaction than in any other way, should, in some way, pool their efforts so that their promotion and sales will be concentrated on mutually satisfactory objectives. This will eliminate, to a certain extent, the disconnected selling which results in the unfortunate situation where the manufacturer's outlet salesman walks out of the customer's office after a difficult half-hour in selling heating equipment, passing, in his departure, the utility salesman entering to go through the same struggle on lighting.

It would, I think you will agree, be much better if the equipment salesman sold lighting equipment at the same time that the utility sold light. The manufacturer's salesman or outlet is not competitive with the utility. It is complementary. Before the utility can sell a single kilowatthour, someone else must sell a piece of equipment. It would seem logical that the two should be sold in orderly sequence, backed up by proper advertising of a mutually satisfactory type.

All of these things that have been discussed are admittedly not easy to do. However, I think we all recognize that it is entirely possible that, at some time in the postwar period, our selling problems may become more difficult than they have ever been before and that, therefore, something more must be done than we have ever done before in order to meet the challenge of the future. We should not forget that, after the last war, we entered the postwar period as a comparatively young industry with a not too complicated sales problem. During the 20's the sale of isolated plants and the wiring of homes sufficed to more than overcome the impact of the loss of war loads. It was not until just before the decade of the 30's that these markets were largely exhausted and new applications became valuable and important in our sales efforts.

Since that time there has been considerable development, but we will enter the next postwar period without the isolated plant market, the unwired home or an untouched commercial market. The impact of whatever readjustment may occur will be greater than that following the last war and we will be forced to look to the intensive development of the market for electrical applications in all phases of our business to overcome that effect. It is almost unnecessary to point out that our industrial business, with its extraordinary war-time expansion, will feel the change from War to Peace more than a little. It is in this phase of our business also that we find the greatest

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Sight for Victory

By H. P. J. Steinmetz

Chairman, National Better Light-Better Sight Bureau
Vice Pres., Public Service Electric & Gas Co., Newark, N. J.

An address before the General Commercial Conference, EEI, Chicago, April 29, 1943

TO set things straight, let me say at the beginning that this is not an address on "Sight For Victory." It is a presentation of a new program, tuned to the times, of the National Better Light-Better Sight Bureau.

The War Production Board knows, hundreds of production managers know, and everybody in the lighting business knows the importance of providing good seeing conditions for war work.

During 1942 and the early months of 1943 a very fine start has been made. Excellent lighting has been furnished in the great new war plants, and the lighting of many existing plants has been "fight conditioned" for greater war production.

But there are many, many thousands of plants, especially the little shops and medium sized factories, that have been completely passed by.

Each of these plants is trying to do its best on the biggest job ever tackled. And in the great majority of cases they are handicapped by lighting that is pitifully antiquated, run down, and inadequate for the job at hand. And of the greatest importance in this big job is the prevention of waste of critical materials which are needed for weapons of war—it is a proven fact that spoilage is measurably decreased when seeing conditions are improved.

Until all workers—not just the fortunate in the few big plants—are provided with the *best seeing conditions obtainable today*, lighting men cannot truthfully say that they have done their part.

We all know the importance of time, and the necessity of speed, if we are going to win a real victory in this war. Wouldn't it be a great satisfaction to all of us to be able to say by July 4, 1943—"Seeing Conditions are Right in the War Plants of America." It should be done—it can be done.

The Better Light-Better Sight Bureau has set up a program which I believe shows *how* it can be done.

We have prepared a book entitled, "Sight For Victory," which is designed to be personally presented by lighting men to every war plant in America. It tells the simple, powerful facts about Sight—and Light in war industry. It provides Light-Sight check forms for making a clear and comprehensive analyses of the seeing conditions in any and all plants.

Every one of the 185,000 industrial plants in the country is a potential prospect in this Sight For Victory drive. Almost every community has some kind of factory or plant. It may be big or small. It may be hidden in a backyard or second story. It may be an imposing structure. In any case the main objective is to contact every plant and convert to Good Seeing For Faster War Production.

We are certain that war plant executives everywhere will welcome "Sight For Victory" that takes the mystery out of lighting and enables them to quickly prove to their own satisfaction whether or not the Seeing Conditions in their plant are *aiding* or *hindering* war production.

"Sight For Victory" is not intended for mailing purposes. It is to be presented personally by men who have been trained as Lighting Counselors to War Industry. Although many of these men may not be engineers it is highly important that they understand the contents of the book and are qualified to make constructive recommendations when bad seeing conditions are encountered. These recommendations should definitely take into consideration the patriotic responsibility of all of us to suggest new equipment only when the best possible use of existing equipment still produces inadequate lighting for exacting war needs.

A Lighting Counselor should go through the book with the plant executive whenever possible. Although "Sight For Victory" tells its story clearly and quickly, it may be laid aside unnoticed if it is merely handed to a person. The headings of the pages provide a logical connected story. The amount of detailed discussion will of course vary with the individual and the interest shown.

The immediate objective is of course to have the seeing conditions in the plant checked and noted on the Light-Sight Check forms in the back of the book. And that check will be made more quickly and effectively if the lighting counselor who presents the book is authorized to assist in the checking and submit recommendations on the form.

The desired end is to make certain that good seeing conditions are provided throughout the plant. Unless action is taken where action is needed no good is accomplished and time has been wasted. The average plant executive will not know just what is needed to correct lighting faults. The lighting counselor does. It is therefore the responsibility and privilege of the company and the man who presents "Sight For Victory" to assist in every way possible in making SEEING CONDITIONS RIGHT.

Of first importance is local leadership. There are many thousands of war plants in America which will benefit by this service. If we organize community by community and utilize the total lighting man power available in each community, the task is not a great one *but the results will be great.*

It is our belief that the Electric Utilities are in the best position to assume the leadership of local activity, of mustering the man power and assuming the responsibility of seeing that the job is done once and for all for the war plants on their lines. The lamp manufacturers are eager to assist in every possible way in obtaining efficient community operation. During the month of June lamp manufacturers will feature the book "Sight For Victory" in magazine and radio advertising, and stress the importance of a Light-Sight Check in each war plant.

It is suggested that as quickly as possible each utility call a meeting of their own men and include distributor, fixture manufacturer, contractor - dealer and lamp manufacturer representatives.

Explain the objectives, the suggested procedure, and give details of local support which will be provided.

It is highly important that at this meeting it be made clear that this is not a sales campaign to move equipment. It is an effort to render a real service to all war workers, and as much credit is due the man who improves the seeing condi-

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Utility Accountants Hold Joint Meeting

ACCOUNTING problems resulting from war-time conditions dominated a concentrated two-day meeting of more than 350 gas and electric industry accountants at the Netherland-Plaza, Cincinnati, Ohio, April 27-28. Held under the joint sponsorship of the AGA and EEI it was one of the most successful meetings in recent years.

The general session and seven luncheon meetings were held on the second day while the entire first day of the conference was devoted to discussions of the following groups: Customer Activities, General Accounting, Taxation, and Purchasing, Stores and Transportation. Leaders of both the gas and electric industries alternated in conducting the sessions.

L. A. Mayo, The Connecticut Light & Power Co., Hartford, chairman of the AGA Accounting Section, and F. B. Flahive, Columbia Gas & Electric System, New York, chairman of the EEI Accounting Executive Committee, presided at the general session.

In welcoming the delegates to Cincinnati, H. C. Blackwell, president, The Cincinnati Gas & Electric Co., gave his views on depreciation, maintenance and public relations. He predicted that many changes in accounting procedure dictated by the war would be a permanent part of the post-war set-up.

The urgency of the manpower problem was emphasized by Robert C. Goodwin, regional director, War Manpower Commission, who said that by the end of the year "three out of every ten workers in country must be women."

Recent trends in utility regulations were summarized by W. A. Dougherty, Standard Oil Co. of New Jersey, New York, N. Y., who noted that the influence of Federal regulation is expanding. He discussed acts of the Federal Power Commission, paying particular attention to the Hope Natural Gas Company case.

Charles E. Kohlhepp, chief, Inventory Control Branch, Office of War Utilities, War Production Board, spoke on "Inventories and Surplus Materials," giving a clear-cut explanation of order U-1 which makes it compulsory for utilities to sell surplus materials. He indicated that it was hoped to get the Office of Price Administration to adopt a special price directive to cover utility excess materials and concluded with a plea for the industry to cooperate with the government in making available all critical materials it can spare.

Other speakers at this session were Arthur F. Bridge, president, AGA, and C. W. Kellogg, president, EEI.

The general session closed with a talk by Mr. Flahive who has served as chairman of the Accounting Sections of both the gas and electric associations.

Customer Activities Group

Presiding: E. F. Embree, New Haven Gas Light Co., New Haven, Conn., H. R. Flanegan, Philadelphia Electric Co., Philadelphia, Pa.

In his opening remarks, Chairman Embree called attention to the "Customer Activities Group Report" which summarized replies to a comprehensive questionnaire covering emergency changes in customer accounting, collections, and customer relations procedures. This report, summarized in last month's EEI BULLETIN, was distributed to the delegates and a large part of the meeting was devoted to a discussion of it.

The morning session concluded with a Customer Accounting Forum led by J. H. W. Roper, Washington Gas Light Co., Washington, D. C.

Mr. Flanegan presided at the afternoon meeting which opened with a Customer Collections Forum led by H. F. Quad, Public Service Electric & Gas Co., Newark, N. J., who presented some of the highlights of the questionnaire report mentioned above.

Following Mr. Quad's presentation J. Gordon Ross, of Rochester, led the discussion on collection problems.

W. A. Kelly, Consolidated Gas Electric Light & Power Co. of Baltimore, opened the discussion on the Lengthened Work Schedule. A six-day, 48-hour week was made effective in the Baltimore utility February 27. The first approach was to prepare an inventory of manpower and to maintain it on a current basis. This inventory was a breakdown of employees by occupational classification and, after a detailed study, the projection by such occupations of the number of employees needed on the lengthened work week.

While figures indicated a decrease in manpower of 16 2/3 per cent on the 48-hour week, the actual decrease was 12 per cent, Mr. Kelly stated. He outlined the considerable planning and study required to reschedule the meter reading, billing, bookkeeping and collection routines, and urged companies contemplating this change to pay careful attention to gaining the cooperation of employees.

A comprehensive study of the utility manpower situation in Dayton, Ohio, was presented by K. E. Boyle, The Dayton Power & Light Company. Illustrating the problem to be solved, Mr. Boyle reported that in 1942 the commercial accounting department of his company had an employee turnover of 104 per cent, divided as follows: collection department, 67.6 per cent; customer accounting, 77.8 per cent; and meter reading, 266 per cent. In the three months period ending January 1, 1943, the meter reading turnover was 87.5 per cent.

To meet this situation, following the employment of high school boys as meter readers and other steps, the company on March 7 lengthened the work week to 48 hours for men and 44 hours for women. With employees being paid time and a half for all work over 40 hours, Mr. Boyle said there was no adverse reaction to this change, on the contrary there was "a decided improvement in our employee attitude and morale due to the higher weekly income."

The Customer Activities Group meeting closed with interesting observations on post-war possibilities by E. N. Keller, Philadelphia Electric Company. Referring to radical developments in meter reading and billing functions, Mr. Keller pointed out that, as these "sprang from necessity and the labor situation, it is not safe to conclude that when the necessity passes they can be maintained. It is true that customer acceptance during this period of stress has been remarkably good, but again there is no assurance that when the crisis is over customers will not criticize short-cut plans."

Greater mechanization is an important factor in post-war planning, Mr. Keller said, and "we cannot expect the office machinery manufacturing companies to do a good job for us unless we can give them a preview of our expected needs." He recommended that the national associations form a group to develop customer accounting systems in use and "do some crystal gazing to determine where we are heading."

General Accounting Group

Presiding: R. E. Hull, United Gas Pipe Line Co., Shreveport, La., H. H. Scaff, Ebasco Services Inc., New York, N. Y., Leith V. Watkins, Panhandle Eastern Pipe Line Co., New York, N. Y.

The General Accounting Group meeting consisted largely of reports of special committees covering a variety of internal and external accounting problems.

Among the items included in the discussion were: Internal Reports, Internal Auditing Reports to Regulatory Authorities, Protection and Preservation of Records, Amortization of War Facilities, Special Reserves for Post-War Adjustment, Streamlining of Uniform Systems of Accounts, Depreciation and Property Records.

A stimulating report of the AGA-EEI Committee on Special Reserves for Post-War adjustments was presented by the co-chairmen, A. A. Cullman, Columbia Engineering Corp., New York, and J. H. Lobban, Detroit Edison Company. The report contains interesting observations in respect to manpower, plant, earnings, inventories and receivables, but emphasizes that plant is by far the most important item which must be considered in respect to reserves.

The Committee on Protection and Preservation of Records, S. E. Campbell, Natural Gas Pipeline Co. of America, Chicago, and F. Heydecke, Public Service Electric & Gas Co., Newark, N. J., co-chairmen, presented an outline of a comprehensive plan for protecting records which is now being completed. Mr. Heydecke described the system used by his company.

Streamlining the uniform system of accounts was advocated by a committee headed by A. M. Hartogensis, Ebasco Services Inc., New York, and H. D. Borger, The Peoples Natural Gas Co., Pittsburgh. Reports to regulatory authorities were analyzed by W. G. Bourne, Jr., The Commonwealth & Southern Corp., New York, and E. K. Higley, Middle West Service Co., Chicago.

Other reports made to the conference included: Depreciation—H. C. Hasbrouck, New York, and H. L. Gruehn, Consolidated Gas Electric Light & Power Co. of Baltimore; Internal Reports—G. H. Bourne, The Commonwealth & Southern Corp., New York, and P. F. Leusch, The East Ohio Gas Co., Cleveland; Internal Auditing—W. D. Virtue, Public Service Co. of Colorado, Denver, and A. H. Schettler, Union Electric Co. of Missouri, St. Louis.

Replies to a questionnaire on utility plant accounting were summarized by the Property Records group, R. L. McVey, Public Service Co. of Colorado, Denver, and H. P. Taylor, Wisconsin Public Service Corp., Milwaukee, co-chairmen, leading the discussion. At the luncheon meeting the following day, Mr. Taylor reviewed the recent rulings handed down by the Federal Power Commission in regard to utility plant acquisition adjustments and utility plant adjustments accounts.

Taxation Group

Presiding: R. M. Dodds, Ebasco Services Inc., New York, N. Y., A. J. Newman, Columbia Gas & Electric Corp., New York, N. Y.

Considerable discussion took place at this meeting relative to the possibility of utilities obtaining relief in connection with excess profits tax liabilities. This discussion centered around Section 722 of the Internal Revenue Code. Other topics which evoked lively comment were: Employer's deduction for retirement annuities; Surtax credit for public utility preferred dividends; Advantages and disadvantages of consolidated returns; and, Equity invested capital as to (1) basis of property paid in stock, (2) accumulated earnings and profits.

Purchasing, Stores and Transportation Group

Presiding: J. K. Brown, Michigan Consolidated Gas Co., Detroit, Mich., W. P. McArdle, Ebasco Services Inc., New York, N. Y.

This group's open floor discussions were dominated by the War Production Board's regulations and their effect on materials inventories, purchases, transportation, stores accounting, and salvage functions. Utilities order U-1 received particular attention and was thoroughly aired.

It was brought out at the meeting that companies represented, without exception, were extremely active in the salvage of materials both as a patriotic duty and an economic necessity. Many ingenious methods of stretching the life of critical materials were mentioned.

Harry A. Snow

HARRY A. SNOW, Controller and Assistant to the General Manager of The Detroit Edison Company died Tuesday, April 27, in Harper Hospital, Detroit, following an illness of several months.

Born in Dearborn on May 7, 1889, Mr. Snow received his early education in the public schools of that city and then attended the University of Michigan, graduating with a degree in Electrical Engineering in 1911. He entered the Meter Department of The Detroit Edison Company in 1914. He was appointed Controller of The Detroit Edison Company in 1932.

A man of unusual ability, Mr. Snow's contributions in the field of statistical economics and public utility rates and property valuations had gained him a national reputation in those fields. He was very active in committee work of both the National Electric Light Association and the Edison Electric Institute and at the time of his death he was a member of the Rate Research Committee, EEI.

During his early years at Detroit Edison, he was active as a basketball player on Company teams, and retained an interest in the Company's Athletic Association up to the time of his death. He was also active in other employee clubs, and played an important part in developing Belleville Pointe, recreation park for Detroit Edison employees at Edison Lake. Other hobbies included stamp collecting and bridge.

A lifetime resident of Dearborn, Mr. Snow served as City Councilman for three terms. At the time of his death, he was a member of the vestry of Christ Episcopal Church, Dearborn, having served as Treasurer of the church at an earlier date. He was a member of the Detroit Athletic Club and Dearborn Country Club, serving the latter as its Secretary for seven years.

Mr. Snow is survived by his wife, a daughter, Mrs. John G. Lambertsen, now with her husband, Major John G. Lambertsen of the U. S. Army Engineers; a son, Robert M. Snow; and sisters Clara Snow and Mrs. G. E. Moore.

Accident Prevention Committee Meeting

George S. Diehl, *Chairman*

SOME of the most important problems in accident prevention now confronting the industry were considered by the Committee at its meeting held at Chicago, May 12 and 13. Plans were made to bring these problems, with suggested means of attack, to the attention of the industry's executives.

Protection of Firemen Near Electrical Circuits

A pamphlet was brought to the attention of the Committee which had been issued by a Department of one of the States as information for firemen. It was felt that some of the information contained in this booklet might be misinterpreted by firemen, causing them to become involved in an electrical accident instead of avoiding it. Mr. Rakestraw exhibited a motion picture developed in cooperation with the local Fire Department and used by the Department in training firemen on electrical hazards. The Committee decided to undertake the preparation of material which could be offered Fire Departments generally for their use.

1942 Accident Trends and Statistics

Mr. Campbell reported that the collection of accident statistics for 1942 has been completed and that the rates were generally about as they were in 1941. Departmentalized breakdowns called for in the present reports were debated at some length with representatives of the National Safety Council, and the question was referred to a subcommittee for further study.

Fatal Accidents Studied

Mr. Stewart presented an analysis of 121 fatal accidents which occurred in the industry in 1941. The tabulation had been compiled from detailed reports submitted to the Institute as a result of a request from this Committee and included about 90 per cent of the fatal accidents reported for that year. This summary, with a brief article entitled "Experience Points the Way in Accident Prevention," was published in the May, 1943, Edison Electric Institute BULLETIN.

The summary showed that almost three fourths of the industry's fatal accidents in 1941 were associated in some way with electric shock or burn, and of those most were experienced on line work. Of the electrical accidents three fourths occurred in the middle six months of the year, again emphasizing the seasonal nature of the hazard. Study of the manner of occurrence of these accidents indicated that some very simple safe practices, notably the full use of rubber gloves and protective equipment, would almost certainly have prevented many of the fatalities.

Discussion centered around the most effective means by which the essential prevention measures can be drawn to the attention of the industry in such a way that they will be more generally adopted.

The Chairman stated that several additional articles, each dealing with some phase of the analysis will be prepared for publication, and that every effort will be made to obtain suitable publicity and wide distribution for the articles. The matter will also be brought to the attention of the Operating Committee of the Institute. The Accident Prevention Committee felt that the analysis has pointed a way to fewer fatal accidents, and that the way can be opened most quickly and effectively by vigorous action on the part of top management within each individual company.

National Electrical Code

Mr. Maxwell outlined a number of points of interest to the Committee in connection with wiring codes. He stated that from time to time proposals had been made for introducing mandatory rules requiring 3-wire cords, one of the wires to be used for grounding frameworks of appliances, etc. Some accidents, however, have occurred because of interchange of the wires in 3-wire cords during repairs of the equipment. He felt that surer ways are available for increasing safety in the use of equipment. Mr. Maxwell also discussed the broad question of low voltage fatalities, a subject which has received the attention of the Committee for a number of years.

Linemen's Cutouts

Mr. Berman presented his second report on the subject of linemen's cutouts. He listed 27 causes of cutouts and pointed out that cutouts result from mechanical causes such as short or dull gaffs and from climbing practices such as climbing the low side of the pole or climbing with knees too close to the pole. There was a lively discussion of Mr. Berman's report and the Committee felt that the importance of cutouts as a source of many serious accidents warranted further study. Mr. Berman was appointed Chairman of a subcommittee for that purpose.

Rubber Gloves

Mr. Claffy reported on the rubber situation as related to the manufacture of linemen's rubber protective equipment. He urged that everyone continue to conserve this equipment since rubber is of vital importance in protecting the lives of electrical workers and is also a critical material in the war effort.

He also discussed the possible use of electrical rubber gloves by women. The Committee recommended that, if such gloves are to be made, the Standard ASTM D120-40 be followed and that smaller sizes be specified as needed.

New Employees, Lowered Physical Requirements and Employee Training

The Committee recognized that the present man power situation is making necessary the employment of some physically less able employees, but that accidents can be held to a minimum if care is taken to make sure that the employee is not assigned to work beyond his capacity. In other words, the job and the less physically able employee must be carefully matched.

The importance of training was emphasized, and in this connection Mr. Rakestraw later presented a progress report from the subcommittee on employee training. Mr. Sprinkle reviewed his experience with JIT, JMT and JRT training courses offered by the Training Within Industry branch of the War Manpower Commission.

The Committee felt that the relation between sound job training methods and the prevention of accidents is so intimate as to warrant asking several members whose companies have excellent safety records to come to future meetings and discuss the part that they believe their training programs had in producing the safety records.

Pole Top Resuscitation

Mr. Smith reported further progress in the preparation of the tentative instructions on pole top resuscitation technique. The text has been completed and he is now working on illustrations to accompany it. He is cooperating closely with the Public Utilities Section of the National Safety Council.

Paper by Mr. Nimmo

A paper on accident prevention by Mr. W. F. Nimmo, former chairman of the Transmission and Distribution Committee was read. This paper dealt with accident prevention activities lying within the scope of the T & D Committee. The Accident Prevention Committee plans to obtain wide distribution for Mr. Nimmo's excellent paper.

Other Subjects Considered

The Committee discussed the advisability of promoting the adoption of safe practices through the medium of posters designed particularly to portray the best methods of dealing with problems peculiar to the industry.

The influence of good lighting on the prevention of accidents was discussed by Mr. Kreh.

Mr. Webb called to the attention of the Committee an editorial from the *Journal of the American Medical Association* entitled "Cooling in Shock."

A report on Tree Clearances was presented by Mr. Fiedler of the T & D Committee. This report will be mimeographed and distributed for review and comment to the members of the Accident Prevention Committee.

The Committee voted to hold its next meeting in Chicago immediately following the October National Safety Council Congress.—D. C. S.

Electrical Equipment Committee Meeting

R. T. Henry, *Chairman*

THE Electrical Equipment Committee held a well-attended spring meeting at the Edgewater Beach Hotel in Chicago on May 10 and 11, in connection with the conference of the various engineering committees of the Institute. Indicative of the need for coordinated consideration of the problems arising from the war emergency was the fact that three of the sessions were held jointly with other committees. One session with the Transmission and Distribution Committee featured the problem of post-war planning. Another session with the Prime Movers Committee was devoted to emergency measures for increasing the output of generators and systems. A third session attended by all three of these committees reviewed the manpower situation.

A consideration of the effect of War Time and the Dim-Out was introduced by Mr. Maxwell, who presented load curves on a regional basis illustrating these effects. In discussion, special characteristics of individual areas were brought out.

The Apparatus Trouble Report for the period August, 1942-February, 1943, was abstracted by Mr. F. S. Brown. The report covered 118 cases of apparatus trouble, 32 of which were classified as major, and 86 as minor. For the period under consideration the average number of failures was 20 per month as against an average for the last four and one-half years of 19 per month. Lightning or lightning arresters were responsible for about 20 per cent of the total number of failures reported. In view of the increasing load under present emergency conditions, particular attention was devoted in analyzing the cases for the possible effects of overload. None of the failures reported were directly attributable to this cause.

Progress in the work of joint committees dealing with power circuit breakers was reported. ASA Sectional Committee C37 has recently submitted, for letter ballot of the Sectional Committee, a revised draft of the Power Circuit Breaker Standard. Some comments have been made on this draft. It is hoped that the Standard can be completed at an early date so that it may be available to the industry some time this summer.

The Operating and Maintenance Division held an interesting session on current problems. Mr. DeBeech reviewed developments since the last meeting in the matter of air raid protection. This was supplemented by Mr. Hellenthall, who discussed the situation in the Pacific northwest. Mr. Fields described the manpower situation as it affected his company, and discussed the steps being taken to meet the shortages encountered. Mr. Hughes reviewed further developments in the matter of plant protection and stressed the importance of having a flexible plan to meet changing conditions.

Mr. Howery reviewed the activities of the Meter and Service Committee. Work has been concentrated on a relatively few items and substantial progress has been made on a report dealing with safety practices for metermen and also on the matter of standardization of bar type current transformers.

The joint session with the Transmission and Distribution Committee opened with a consideration of post-war planning. This was introduced by Mr. Sanford, whose paper "Looking Back to View the Future" appeared in the May issue of the EEI BULLETIN. Mr. B. M. Jones' paper on "Post-War Planning for Electric Utilities" and the discussion which followed, gave consideration to methods of setting up plans and pointed out certain specific matters which should be included.

Mr. Silver presented a paper on System Voltage Control in the War Emergency. He reviewed the basic factors involved and called particular attention to the possibilities inherent in the compensated control or scheduling of bus voltage at generating stations. He illustrated this with examples drawn from actual experience in several situations.

Mr. Cornelius discussed the work of the EEI-NEMA Joint Committee on Fuses. At a recent meeting agreement was reached on the Type E power fuse. For distribution purposes, however, the Type N fuse will be retained for the duration of the war.

Mr. Foote reviewed the problem of simplification of wire and cable. He referred to the work of the IPCEA, ASTM, and ASA Committees and the more recent activity sponsored by the War Production Board. He requested information from the committee members as to the minimum requirements for various sizes during the war emergency so that the committee might supply WPB with information from the users' point of view, which would be of assistance to them in their program of simplification.

At the joint session with the Prime

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PERSONALS

JOHN G. FELTON, director and district manager, Northern States Power Company, La Crosse, Wis., has been elected president of the Wisconsin Utilities Association, succeeding E. R. FELBER, Madison Gas and Electric Co. S. B. SHERMAN, vice-president, Wisconsin Gas and Electric Co., Racine, has been named vice-president. D. W. FABER, secretary, Wisconsin Public Service Corp., was re-elected treasurer of the association. The new officers began their terms May 1, 1943.

W. E. L. IRWIN has been appointed division manager at Ardmore for the Philadelphia Electric Co. to succeed the late W. T. Ryan. Mr. Irwin has been an employee of the Philadelphia Electric Co. system since his graduation from the University of Pennsylvania in 1921. He held various suburban division engineering position prior to being named division superintendent of the Main Line division in 1928. In 1933 he was transferred to Jenkintown in the same capacity, and five years later was made division superintendent at Morton. He had just been appointed superintendent of the meter division and held that position when he was moved to Ardmore.

H. S. DAVIS has been made general manager of the Southern Pennsylvania Power Co. and the Conowingo Power Company to succeed J. A. PURCELL, who was named division superintendent of the western division of the Philadelphia Electric Co. Mr. Davis was first employed by Philadelphia Electric Co. in 1923 for special engineering work. He was made superintendent of the underground division in 1928 and became division superintendent of the Delaware division in 1931. He has been division superintendent of the Schuylkill division since 1938.

W. G. STEINBRIGHT has been appointed division superintendent of the Schuylkill division, succeeding Mr. Davis. He has served as superintendent in both electric and gas departments and also as division superintendent of the eastern division. He was named superintendent of the meter division in 1941.

W. H. JONES was appointed division superintendent of the Delaware division to succeed Mr. Irwin. He has served in the Delaware and Western divisions and at Ardmore. M. S. JOLLEY, who was appointed to succeed Mr. Jones, entered the employ of Philadelphia Electric Co. in 1926. He has served as division superintendent of the Conowingo Power Co. and the Southern Pennsylvania Power Co. later at Ardmore and more recently as superintendent of the western division.

Mr. Purcell, who has been named division superintendent of the western division, entered the employ of the company in 1930. He held various positions in both the electric and gas departments prior to his appointment as general manager of the Southern Pennsylvania Power Co. and the Conowingo Power Company.

J. M. WARNER has been named electric superintendent of the western division. He has served at Bristol and more recently at Wyncote. GEORGE B. M. ROBERTSON, new superintendent of the meter department, has been connected with the Philadelphia utility since 1921.

FRED B. LEWIS, vice-president of the Southern California Edison Co., Ltd., and nationally prominent in the electrical industry, has retired from active service with the company. He remains as a member of the board of directors.

Mr. Lewis entered Edison service in 1905 in the Edison Company test department. In 25 years he rose to the position of vice-president and general manager, holding the position from 1931 to 1942. During the past year he has been vice-president, a director and a member of the company's executive committee.

Mr. Lewis has been one of the leaders in the electrical industry's expansion. During the past year Mr. Lewis has served as chairman of the Electric Power Interchange Committee, formed to meet California's demands for power in war production. He has been succeeded as chairman of this committee by N. B. HINSON, executive engineer of the Edison Company.

In 1920, during a power shortage following the last war, he was appointed power administrator in California and took a leading part in developing the interconnection of California power systems. Again in the dry year of 1924 he had the responsibility of meeting serious problems caused by the lack of hydro electric power. The success with which he solved this difficulty resulted in his promotion to the position of assistant general manager of the Edison Company on Sept. 1, 1924. He was advanced to vice-president and assistant general manager in 1928, and to vice-president and general manager in 1931.

Power Markets Through New Applications

(*Continued from page* 181)

variety and complication in new applications.

For this reason I have attempted to point out some of the difficulties in developing these markets which might possibly be solved by some thoughtful consideration before Victory and the time when we will again be free to go out and sell. Much might have been said in this paper relative to the different applications which are at hand, nearly ready or still in the research stage. It seems to me, however, that despite our dramatic interest in hearing of some new things which widen our horizons, it is sufficient to say that the speed of generation of these things is on the up-grade and that we are more likely to be embarrassed by the number that will be available than by their lack. Because of this, this paper has been devoted entirely to a consideration of some of the problems in introducing new applications to the market; and to suggestions aimed at facilitating that process.

Therefore, if it be true that the engineering approach to selling is imperative for a utility; if it be true that we need authoritative support in order to help combat the market confusion and sluggishness caused by inadequate knowledge and misrepresentation; and if it be true that close cooperation with the manufacturers, both nationally and locally, would aid us to know about the new things that are coming and to better organize our local efforts, then perhaps these things should be accomplished, irrespective of the obstacles which may develop.

Even a small measure of success in improving the percentage of the right thing in the right place will not only increase the speed with which electricity can be harnessed to the work of every-day life in our industries and commercial establishments, but it will also help our customers to meet the change from War to Peace and the impact of whatever economic difficulties result therefrom. I do not think that we should ever forget that our prosperity and existence is entirely dependent upon the continued prosperity and existence of our customers.

Sight for Victory

(*Continued from page* 182)

tions in a neglected five-man shop as to the man who relights a big factory.

I believe the lighting industry has the greatest opportunity ever before it to do a constructive and certainly worthwhile job with this Sight For Victory Program. When the Better Light-Better Sight movement was launched 10 years ago it was eagerly grasped by utilities and lighting interests generally. It became a sensational activity which not only has lasted but is still going forward.

Its success can be attributed to just one thing and that is—*It benefited the public.*

How much more important is it today when we are in the midst of two great wars—to do everything we can to help win those two great wars.

I say it's a real obligation—a definite responsibility of everybody in every branch of the lighting industry to *Make Seeing Conditions Right in the War Plants of America.* We in the Bureau sincerely hope you will see in this SIGHT FOR VICTORY Program one way to fulfill that responsibility—that obligation. WHAT WILL YOUR ANSWER BE?

Permanence of Commercial Work

(*Continued from page* 158)

war, but after the resumption of peace the keen competition among such enterprises ought to offer a most attractive field for our sales forces.

On the residential front the opportunities should be legion. We shall have 27,000,000 such customers. Millions of pieces of household equipment will have lived out their natural life and will be calling for replacement by the new and attractive lines our allies, the manufacturers, will be offering after the war. The levels of wages the war will have built up should make the savings in the home from electrical servants look more attractive than ever before to the harassed housewife. Many of us can never be satisfied so long as the best performance as to household use in many large areas is so far above the national average.

I have dilated on the home and store because they are the most numerous but that does not mean there will not be a wide field of useful activity for the power salesman. I wonder how many of you realize that in the five years before Pearl Harbor the annual energy consumption of the average industrial power consumer had trebled? The changes the war will produce in industrial power use may well be more sweeping than in either home or store. The greater use of electric steel the war has brought out as well as the use of the lighter metals in much greater quantities than ever before, are bound to have a profound effect on the manufactures of the post-war period, with corresponding power problems in which our customers will need the help of the best experts obtainable as power salesmen.

All of this necessary activity on the part of our commercial forces can't be expected to spring into being over night. It must be prepared for now. In justifying these preparations at a time when the scope of our commercial activities is so much circumscribed as it now is by lack of raw materials and manufactured products, it should be reassuring to remember the solid and permanent values that have been built into our business by our commercial work in the past.

In closing I should like again to quote from Mr. Arkwright: "If we make ourselves truly useful to the public, I am not worried that the public will desert us. The best safeguard against having our business taken away from us is to make the public so well pleased with our services that they will not want anybody else to serve them but us."

CONVENTIONS AND MEETINGS

JUNE

2	Pacific Coast Electrical Association, War Problem Conference, Southern Section, Roosevelt Hotel, Hollywood, Cal.
2	Edison Electric Institute, Operating Committee, Waldorf-Astoria Hotel, New York, N. Y.
3	Edison Electric Institute, Annual Meeting, Waldorf-Astoria Hotel, New York, N. Y.
9	Pacific Coast Electrical Association, War Problem Conference, Northern Section, Fairmount Hotel, San Francisco, Cal.
9-10	National District Heating Association, Hotel Schenley, Pittsburgh, Pa.
17-18	Canadian Electrical Association, Annual Meeting, Seignoiry Club, Province of Quebec, Can.
24-25	Public Utilities Advertising Association, Edgewater Beach Hotel, Chicago, Ill.
28-30	American Society of Testing Materials, Pittsburgh, Pa.
June 28-July 1	American Society for Testing Materials, Pittsburgh, Pa.

JULY

1	American Society for Testing Materials, Pittsburgh, Pa.

Electrical Equipment Committee Meeting

(*Continued from page* 186)

Movers Committee the subject of emer gency measures to increase the output o generating systems was introduced b Mr. Monteith, Chairman of the AIE Committee on Power Generation. Som time ago this committee had appointe two subcommittees to investigate th problem—one composed of manufactu ers' representatives had assembled su gestions regarding generators, and t other, composed of operating compan representatives, had obtained system da by means of a questionnaire distribut to operating groups. Mr. Laffoon an Mr. Crippen, the respective chairman the two subcommittees, summarized t results of their studies. On the basis the comments and suggestions receiv at this and other earlier presentation the report is to be put in final form f submission at the AIEE Summer Tec nical Meeting.

At the joint meeting of the Electri Equipment, Prime Movers, and Tra mission and Distribution Committe Mr. E. J. Brock, Deputy Director the War Manpower Commission Region VI, briefly reviewed the orga zation of the Commission and the me ods of attacking the manpower proble The major part of the session was voted to a discussion by Mr. Brock a Mr. R. C. Behn, Chief Occupation Analyst, of questions raised by the me bers.

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